PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
OCTOBER 1961

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 206
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
31 Oct. 1961

SOLAR - GEOPHYSICAL DATA

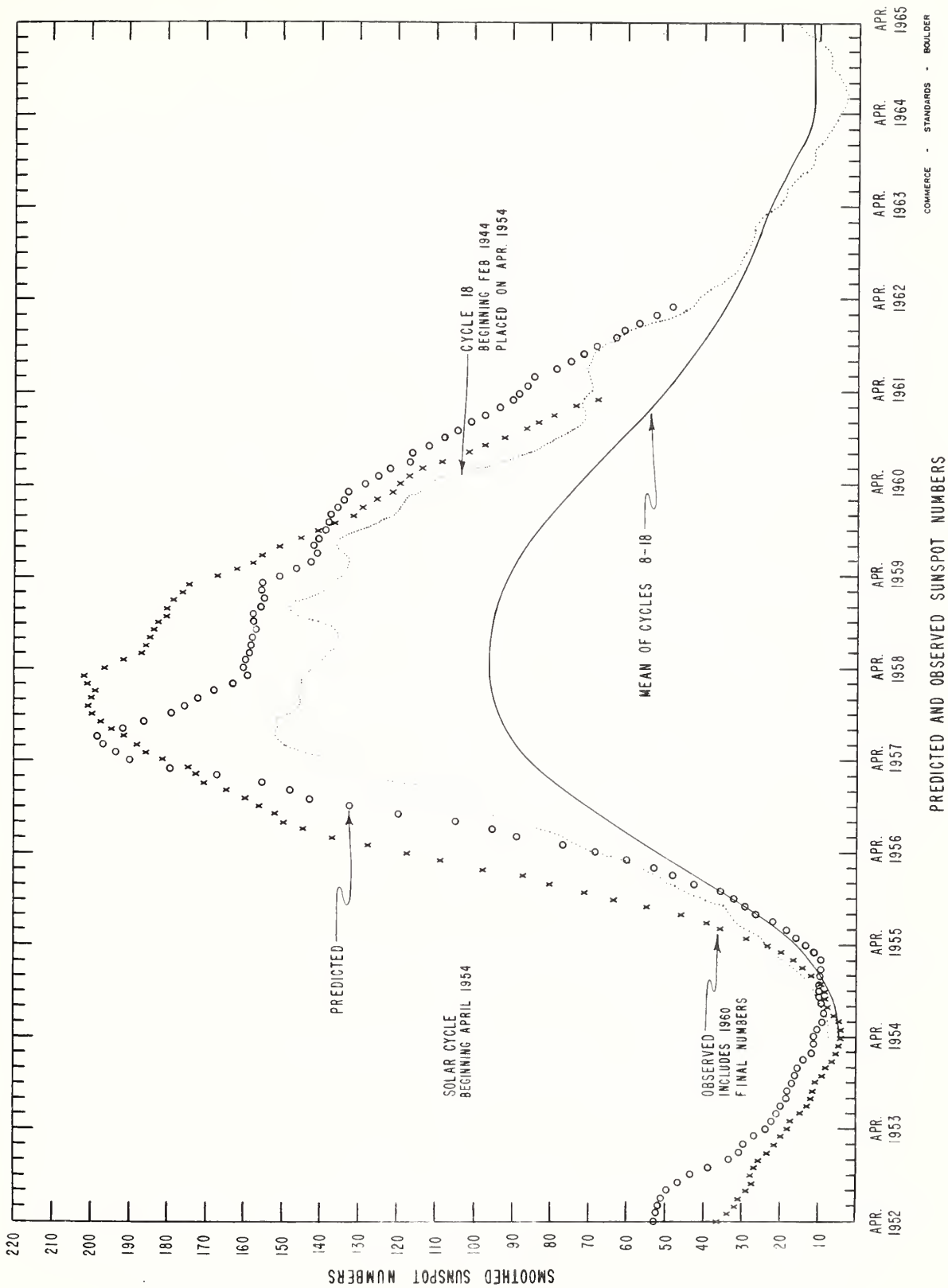
CONTENTS

The descriptive text was published separately, November 1960.

Aug. 1961	American Relative Sunspot Numbers $R_{A'}$
1	20
2	16
3	17
4	8
5	1
6	0
7	5
8	21
9	42
10	62
11	88
12	80
13	82
14	89
15	99
16	86
17	78
18	48
19	46
20	35
21	30
22	23
23	21
24	32
25	35
26	37
27	32
28	28
29	47
30	46
31	47
Mean:	42.0

Sept. 1961	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	51	110
2	53	110
3	54	117
4	55	118
5	55	114
6	57	112
7	51	115
8	33	117
9	45	126
10	57	130
11	62	127
12	68	130
13	89	130
14	109	137
15	114	135
16	102	133
17	84	124
18	73	115
19	70	108
20	46	101
21	41	96
22	40	92
23	43	90
24	74	97
25	83	97
26	74	98
27	67	96
28	69	96
29	58	102
30	52	100
Mean:	64.3	112.4

COMMERCE - STANDARDS - BOULDER


SMOOTHED SUNSPOT NUMBERS
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
APR. 1952
APR. 1953
APR. 1954
APR. 1955
APR. 1956
APR. 1957
APR. 1958
APR. 1959
APR. 1960
APR. 1961
APR. 1962
APR. 1963
APR. 1964
APR. 1965
PREDICTED
SOLAR CYCLE
BEGINNING APRIL 1954
OBSERVED
INCLUDES 1960
FINAL NUMBERS
CYCLE 18
BEGINNING FEB 1944
PLACED ON APR. 1954
MEAN OF CYCLES 8-18
COMMERCE - STANDARDS - BOULDER
PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS

SEPTEMBER 1961

CMP Sep. 1961	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values				CMP Values		
				Area	Int.	History, Age		Area	Count	History
03.2	S07	6213	6196	500	2	ℓ ⌝ d	2			
03.2	S04	6220	*	(1000)	(1.5)	b ⌜ ℓ	-			
04.2	N16	6212	6197	5300	2	ℓ — ℓ	2	990	25	ℓ — ℓ
05.8	S03	6215	6191	1800	2	ℓ — ℓ	4			
08.6	N19	6216	6193	600	2	ℓ — ℓ	4			
09.0	S07	6218	6194	1600	2	ℓ \ ℓ	4			
10.3	N14	6217	6195	2800	2.5	ℓ — ℓ	2			
10.3	S10	6219	6194	400	2	ℓ / ℓ	4			
12.0	N03	6221	**	2100	2.5	ℓ — ℓ	2			
13.4	N08	6222	**	3000	3	ℓ — ℓ	2	90	8	b ∧ d
14.8	S10	6223	New	6800	3	ℓ — ℓ	1	470	42	ℓ \ ℓ
16.2	N15	6224	New	3000	3	ℓ — ℓ	1	530	4	ℓ — ℓ
17.4	N08	6225	6204	1500	2	ℓ — ℓ	4			
18.9	N06	6229	New	700	3	b ⌜ ℓ	1	(50)	(2)	b ⌜ ℓ
19.8	N25	6226	6205	(600)	(2.5)	ℓ ⌝ d	4			
20.4	N25	6230	****	400	1.5	b ∧ d	-			
20.8	N03	6233	New	(300)	(2.5)	b ⌜ ℓ	1			
22.0	N16	6227	6206	1800	3	ℓ — ℓ	4	170	1	ℓ — ℓ
23.3	S18	6231	6207	1600	2.5	ℓ ⌝ d	3			
23.5	N08	6228	***	1000	3.5	ℓ — ℓ	1	80	3	b ⌜ ℓ
26.4	N19	6232	6210	900	1.5	ℓ — ℓ	5			
29.0	N05	6234	New	1500	3	ℓ — ℓ	1	70	2	ℓ ⌝ d

COMMERCE - STANDARDS - BOULDER

* Same as 6213
** 6199, 6200
*** New in position of 6208
**** Same as 6226

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
LOCKHEED	01	0035	0135	0050	N20	W85	6206	60	1	1	0050	1.00	2.90		10	
LOCKHEED	01	0035	0135	0110	N20	W85	6206	60	1	1	0050	1.00	2.90		10	
KODAIKNL	01	0323	0330	0323	N12	E45	6212	7	1	1		2.30	3.20			
BUCHAREST	01	0700 E	0851 D	0747 U	N14	E45	6212	111 D	1	3			4.50			
WENDEL	01	0817 E	0817 D		N13	E37	6212		1				4.00			
WENDEL	01	1232	1250 D		N11	E35	6212	18 D	1				3.00			
ONDREJOV	01	1313 E	1320		N19	W90	6206	7 D	1	3						
KODAIKNL	02	0323	0341	0330	N12	E28	6212	18	1	2	0330	2.30	2.60	2.48	114	
MEUDON	02	0600	0730		N12	E26	6212	90	1				3.00			
WENDEL	02	0602 E	0710 D	0634	N13	E28	6212	68 D	1+				7.00			
ONDREJOV	02	0606 E	0626		N13	E29	6212	20 D	1	3	0607			2.20		
CAPRI S	02	0610 E	0714 D		N12	E32	6212	64 D	1+	3	0619	1.80	2.20			
KODAIKNL	02	0613 E	0620 D		N08	E30	6212	7 D	1	1	0613	1.80	2.10	1.60	114	
ONDREJOV	02	0628	0650	0631	N12	E24	6212	22	1	3	0631			2.10		
BUCHAREST	02	0653 E	0714	0656	N11	E29	6212	21 D	1	3			2.30			
BUCHAREST	02	0820	0829	0825	N12	E24	6212	9	1	3			2.50			
ONDREJOV	02	1212	1219	1214	N12	E23	6212	7	1	3	1214			2.10		
CAPRI S	02	1330	1423 D		N12	E28	6212	53 D	1	3	1400	2.50	3.00			
MEUDON	02	1345	1415 D		N13	E25	6212	30 D	1							
SAC PEAK	02	1348	1426	1358	N15	E26	6212	38	1	3		3.92	3.98		30	Slow S-SWF
WENDEL	02	1348	1439 D	1413	N13	E23	6212	51 D	2				11.00			
ONDREJOV	02	1407 E	1428		N14	E25	6212	21 D	1+	3	1412			2.30		
SAC PEAK	02	1638 U	1700	1650	N16	E28	6212	22 U	1	3		2.89	2.87		26	S-SWF
HUANCAYO	02	1647	1719 D	1648	N13	E25	6212	32 D	1	2	1650	2.30	2.60	2.90		
LOCKHEED	02	2230	2350	2250	N11	E12	6212	80	1+	2	2250	4.00	3.90		30	
LOCKHEED	02	2230	2350	2312	N11	E12	6212									
SAC PEAK	02	2234	2356	2250	N10	E15	6212									
SAC PEAK	02	2234	2356	2238	N10	E15	6212	82	2			5.94	5.67		26	
BUCHAREST	03	0703	0730	0720	N13	E10	6212	27	1	2			2.10			
ONDREJOV	03	0843	0852	0845	N13	E08	6212	9	1	3	0845			3.50		
WENDEL	03	0844	0851 D		N11	E16	6212	7 D	1				4.00			
BUCHAREST	03	0845	0855	0847	N12	E09	6212	10	1	2			2.30			
WENDEL	03	1429 E	1441 D		N12	E80	6217	12 D	1				4.00			
WENDEL	03	1504 E	1507 D		N12	E09	6212	3 D	1+				6.00			
LOCKHEED	03	2015	2100 U	2026 U	N07	E80	6217	45 U	1	1	2026	1.20	3.00		10	
LOCKHEED	03	2040	2125	2047	N10	E02	6212	45	2	2	2047	6.00	5.90		30	S-SWF
HONOLULU	03	2042	2106	2051	N12	E01	6212	24	1	3	2051	1.40	1.40			
MCMATH	03	2057 E	2121		N11	W01	6212	24 D	1	2	2057		2.50			
LOCKHEED	03	2347	2425 U	2356	N13	E16	6212	38 U	1	2	2356	2.00	2.00		20	
ONDREJOV	04	0726	0750	0729	N13	W04	6212	24	1+	3	0729			4.30		
BUCHAREST	04	0727	0749	0735	N12	W03	6212	22	1	1			3.40			S-SWF
WENDEL	04	0727	0752	0732	N11	W08	6212	25	1+				6.00			
KODAIKNL	04	0730 E	0745	0734	N11	W04	6212	15 D	1	1	0734	2.30	2.30	2.08	122	
WENDEL	04	0921 E	1027 D		N12	W02	6212	66 D	1+				6.00			
SAC PEAK	04	1428	1512	1434	N14	W04	6212	44	2	3		5.18	5.18		24	
WENDEL	04	1429	1546	1436	N12	W03	6212	77	2				10.00			
CAPRI S	04	1430	1503 D		N13	W00	6212	33 D	1	3	1444	4.00	4.00			Slow S-SWF
MCMATH	04	1512 E	1515 D		N12	W04	6212	3 D	1	1	1515		2.10			
SAC PEAK	04	1512	1540 U	1520	N14	W04	6212	28 U	1	3		3.30	3.30		24	S-SWF

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
CAPRI S	04	1512	1542 D		N13	W00	6212	30 D	1	3	1520	3.50	3.50			
NERA	04	1514 E	1520 D		N13	W02	6212	6 D	2	1						
WENDEL	04	1557	1606 D		N12	W03	6212	9 D	1				3.00			
LOCKHEED	04	1834	2010	1846	N13	W07	6212	96	1+	2	1918	5.00	4.90		30	
LOCKHEED	04	1834	2010	1906	N13	W07	6212									S-SWF
LOCKHEED	04	1834	2010	1918	N13	W07	6212									
SAC PEAK	04	1902	1919 U	1905	N13	W08	6212	17 U	1	3		2.17	2.17		17	
SAC PEAK	04	1911	2018	1924 U	N13	W06	6212	67	2	3		5.22	5.22		30	S-SWF
HONOLULU	04	1912 E	1950 D	1920	N16	W04	6212	38 D	1	2	1920	2.30	2.30			
LOCKHEED	04	2140	2240	2151	N13	W14	6212	60	1	2	2151	4.00	3.90		20	S-SWF
ONDREJOV	05	0903 E	0913 D		N10	W20	6212	10 D	1	3	0904			2.50		
ONDREJOV	05	1014 E	1028		N14	W22	6212	14 D	1	3	1015			2.40		
ONDREJOV	05	1240	1255	1246	N14	W15	6212	15	1	3	1246			2.50		
CAPRI S	05	1415	1510 D		N12	W20	6212	55 D	1	3	1440	2.30	2.50			
MCMATH	05	1416	1506 D		N10	W22	6212	50 D	1	2	1439		2.00			S-SWF
WENDEL	05	1428 E	1514 D		N12	W21	6212	46 D	1+				6.00			
ONDREJOV	05	1451 E	1458 D		N10	W25	6212	7 D	1	1						
WENDEL	05	1514	1544 D		N14	W17	6212	30 D	1				4.00			
LOCKHEED	05	1646	1725	1700	N12	W18	6212	39	1	2	1700	2.10	2.10		20	
SAC PEAK	05	1649	1738 U	1705	N13	W18	6212	49 U	1	2		2.60	2.60		24	S-SWF
MCMATH	05	1728 E			N12	W19	6212		1	2	1728		2.00			
KODAIKNL	07	0618	0622	0618	N11	W40	6212	4	1	2	0618	2.30	3.00	1.44	122	
LOCKHEED	07	2121	2218	2144	S10	E90	6223	57	2	2	2144	1.10	5.50		20	
CAPRI S	08	1158	1213 D		N07	E22	6217	15 D	1	3	1202	1.90	2.10			
MEUDON	08	1158	1215		S10	E30	6219	17	1							
MCMATH	08	1445	1710	1518	N18	W52	6212	145	2	2	1518		5.50			
MEUDON	08	1450	1630	1520	N20	W53	6212	100	2				8.00			
CAPRI S	08	1515	1559 D		N19	W52	6212	44 D	2	2	1529	3.60	5.80			
MEUDON	08	1545	1650		S10	E90	6223	65	1?							S-SWF
MCMATH	08	1555	1630 D	1603	S09	E89	6223	35 D	1	2	1603		2.10			
KODAIKNL	09	0507	0514	0509	N12	W67	6212	7	1+	1	0509	2.30	4.60	2.24	114	
CAPRI S	09	0925 E	0943 D		S17	W51	6215	18 D	1	3	0930	1.30	2.10			
MCMATH	09	1207	1309 D	1217	S09	E78	6223	62 D	1	2	1217		2.30			
LOCKHEED	09	1801	1820	1806	N20	E80	6224	19	1	2	1806	1.10	3.20		10	
WENDEL	10	0611 E	0631 D		S12	E66	6223	20 D	1				4.00			
WENDEL	10	0658	0748 D		S08	E60	6223	50 D	1+				7.00			
CAPRI S	10	0700 E	0735 D		S09	E60	6223	35 D	1	3	0704	1.50	3.20			
LOCKHEED	10	1555	1615 E	1610 U	N10	W90	6212	20 D	1	2	1610	1.00	5.00		10	
LOCKHEED	10	1950	2052	2010	N08	W80	6212	62	1	2	2010	1.00	2.90		10	
MCMATH	10	2018 E	2038 D		N13	W90	6212	20 D	1	1						Slow S-SWF
HONOLULU	10	2018	2054	2030	N16	W90	6212	36	1	2	2030	.80	3.90			
ONDREJOV	13	0925 E	0929 D		S14	E10	6223	4 D	1	3						
WENDEL	13	0927 E	0937 D		S13	E11	6223	10 D	1				4.00			
WENDEL	13	1007 E	1052 D		N14	E35	6224	45 D	1				3.00			
WENDEL	13	1020 E	1045 D		S14	E10	6223	25 D	1				3.00			

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
UCCLE	13	1119	1131	1129	N14	E37	6224	12	1	3	1129	2.00	2.30			
WENDEL	13	1126	1207		N14	E35	6224	41	1				4.00			
LOCKHEED	15	0031	0130 U	0044	S14	W11	6223	59 U	1+	2	0044	4.00	4.00		30	Slow S-SWF
BUCHAREST	15	0735 E	0757 D	0744 U	S10	W09	6223	22 D	1	3			2.40			
LOCKHEED	15	2144	2210	2151	N13	E90	6227	26	1	2	2151	1.00	2.90		10	
MEUDON	16	1057	1125	1105	N20	E80	6227	28	2							
WENDEL	16	1059	1258 D	1115	N17	E77	6227	119 D	3+				26.00			
ONDREJOV	16	1100	1148		N19	E75	6227	48	2+	3	1106			6.10		
UCCLE	16	1103	1154 D	1109	N15	E77	6227	51 D	2+	3	1109	4.50	9.00			
CAPRI S	16	1103	1159		N20	E76	6227	56	3	3	1106	4.00	13.60			
WENDEL	16	1158 E	1211 D		N22	W33	6222	13 D	1				3.00			
KODAIKNL	17	0452	0457	0454	S11	W37	6223	5	1	2	0454	1.90	2.50	2.00	122	
WENDEL	17	0920 E	0935 D		S12	W42	6223	15 D	1				3.00			
ONDREJOV	17	0920 E	0948 D		S11	W39	6223	28 D	1	3	0927			2.20		
WENDEL	17	0925 E	0948 D		N21	W43	6222	23 D	1				3.00			
WENDEL	17	1307	1328		S12	W45	6223	21	1				3.00			
ONDREJOV	17	1402	1515		S09	W29	6223	73	1	3	1410			2.10		
SAC PEAK	17	1726	1744	1734	S14	W46	6223	18	1	3		1.88	2.33		18	
SAC PEAK	17	1748	1808	1756	N13	W27	6224	20	1	3		2.12	2.17		18	
BUCHAREST	18	0715 E			S10	W52	6223		1	2			3.20			
MEUDON	18	1120	1155		S05	W53	6223	35	1				4.00			
WENDEL	18	1126	1212 D		S09	W45	6223	46 D	2				9.00			
ONDREJOV	18	1128	1203	1142	S05	W49	6223	35	1+	3	1142			2.40		
CAPRI S	18	1128	1218 D		S08	W48	6223	50 D	2	3	1135	3.30	5.30			
SALTSJOBADN	18	1135 E	1209		S08	W42	6223	34 D	2	2	1136	5.00	7.50			
BUCHAREST	19	0750 E	0830 D	0810 U	N16	W40	6224	40 D	1	3			3.20			
ISTANBUL	19	0756	0815		N02	W05	6229	19	1							
ISTANBUL	19	0758	0830 D		N16	W40	6224	32 D	1							
UCCLE	20	1021	1026	1022	N14	W64	6224	5	1	3	1022	1.00	2.20			
ONDREJOV	20	1022 E	1026		N12	W62	6224	4 D	1	3	1022			2.30		
WENDEL	23	0615 E	0636		N02	E74	6234	21 D	1				4.00			
WENDEL	23	0615 E	0653		N07	E03	6228	38 D	1+				6.00			
CAPRI S	23	0620	0703 D		N08	E04	6228	43 D	1	3	0640	2.10	2.10			
KODAIKNL	23	0631 E	0641 D	0631	N07	E09	6228	10 D	1	1		2.30	2.30			
ONDREJOV	23	0631 E	0646		N06	E01	6228	15 D	1	3	0631			2.00		
ARCETRI	23	0855 E	0935 D		N01	E80	6234	40 D	1	3						
WENDEL	23	0929 E	0950 D		N02	E72	6234	21 D	1				4.00			
WENDEL	23	1101 E	1113 D		N02	E71	6234	12 D	1				3.00			
WENDEL	23	1323	1407		N02	E70	6234	44	1				3.00			
ONDREJOV	24	0535 E	0545		N03	E60	6234	10 D	1	3	0536			2.80		
BUCHAREST	24	0700 E	0900 D		N06	W10	6228	120 D	1	1			4.60			
CAPRI S	24	0708 E	0825 D		N24	W30	6227	77 D	1	1	0737	2.00	2.60			
BUCHAREST	24	0715	0850	0737 U	N23	W27	6227	95	1	1			2.10			
MEUDON	24	0720	0845		N20	W30	6227	85	1							

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT.	MER DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX INT. %	PROVISIONAL IONOSPHERIC EFFECT
ONDREJOV	24	0732	0803		N25	W30	6227	31	1	3	0737			2.00		
WENDEL	24	1350	1431 D		N02	E58	6234	41 D	1				3.00			
WENDEL	24	1402	1426		N02	E66	6234	24	1				4.00			
LOCKHEED	24	2107	2127	2111	N02	E90	6235	20	1	2	2111	1.00	5.00		10	
LOCKHEED	24	2107	2127	2123	N02	E90	6235									
KODAIKNL	25	0301 E	0309 D	0302	N05	E53	6234	8 D	1	1	0309	1.70	2.90	2.92	122	Slow S-SWF
WENDEL	25	0641	0720		N07	W23	6228	39	1+				8.00			
BUCHAREST	25	0651 E	0720	0651 U	N08	W23	6228	29 D	1	2			3.70			
WENDEL	25	1016	1030 D		N07	W26	6228	14 D	1				3.00			
SALTSJOBADN	25	1017 E	1027		N08	W25	6228	10 D	1	2	1021	4.00	4.40			
WENDEL	25	1127	1150 D		N12	E70	6235	23 D	1				3.00			
WENDEL	26	0620 E	0820 D		N14	E86	6237	120 D	2				9.00			
BUCHAREST	26	0700 E	0903 D		N14	E90	6237	123 D	1	2						
BUCHAREST	26	0700 E	0903 D		N12	E63	6235	123 D	1	2			3.60			
ARCETRI	26	0909 E			N13	E86	6237		1	3	0909	.83	3.50			
CAPRI S	26	1016 E	1108 D		N16	E66	6235	52 D	2	3	1040	4.00	8.40			
WENDEL	26	1100 E	1127 D		N17	E65	6235	27 D	1+				7.00			
WENDEL	26	1518 E	1547 D		N10	E57	6235	29 D	1				3.00			
WENDEL	26	1542	1547 D		N14	E80	6237	5 D	1				3.00			
MCMATH	26	2007	2146 D		N12	E60	6235	99 D	1	2			2.00			
UCCLE	27	1107	1121	1110	N10	E78	6237	14	1	3	1110	1.50	3.00			
WENDEL	27	1107	1125 D		N14	E71	6237	18 D	1+				6.00			
SALTSJOBADN	27	1109 E	1121 D	1114	N12	E70	6237	12 D	1	3	1114	1.40	4.20			
CAPRI S	27	1110 E	1124 D		N14	E70	6237	14 D	1	3	1112	1.40	4.50			
MEUDON	27	1116	1124		N13	E75	6237	8	1							
WENDEL	27	1149 E	1249 D		N13	E69	6237	60 D	1				3.00			
WENDEL	27	1214 E	1232 D		N08	W53	6228	18 D	1				4.00			
CAPRI S	27	1448 E	1503 D		N12	E42	6235	15 D	1	3	1451	1.30	2.70			
ONDREJOV	27	1449 E	1455 D		N15	E62	6237	6 D	1	1	1451			2.00		
MEUDON	27	1456	1508		N13	E63	6237	12	1							
SAC PEAK	27	1852	1952 U	1920	N12	E57	6235	60 U	1	1		1.73	2.39		18	
MCMATH	27	1852	1958	1922	N12	E60	6237	66	1	2	1922		2.50			
HUANCAYO	27	1950	2007	1958	N13	E70	6237	17	1+	2	1956	1.40	4.60	3.80		
MCMATH	27	1950	2016	1954	N13	E74	6237	26	1	2	1954		2.20			S-SWF
SAC PEAK	27	1952 E	2005 D	1958 U	N14	E69	6237	13 D	1	1		1.16	2.08		23	
CAPRI S	28	0907 E	0920 D		N14	E37	6235	13 D	1	3	0912	2.00	2.60			
WENDEL	28	0907 E	0938 D		N15	E63	6237	31 D	1				3.00			
MEUDON	28	0915	0921	0917	N14	E40	6235	6	□							
ONDREJOV	28	0916	0931 D	0919	N14	E63	6237	15 D	1	3	0919			2.70		
WENDEL	28	1018 E	1034 D		N15	E62	6237	16 D	1				3.00			
WENDEL	28	1022 E	1050 D		N13	E31	6235	28 D	1				4.00			
ONDREJOV	28	1520 E	1536	1530	N15	E34	6235	16 D	1	3	1530			2.00		
WENDEL	28	1524 E	1550 D		N12	E34	6235	26 D	1				4.00			
LOCKHEED	28	2202	2530	2224	N15	E29	6235	208	3	3	2224	20.00	20.70		40	
HONOLULU	28	2208	2330 D	2222	N13	E30	6235	82 D	3	2	2222	21.90	22.50			Slow S-SWF
HONOLULU	28	2208	2330 D	2228	N13	E30	6235									
ISTANBUL	29	1051 E	1105 D		N13	E43	6237	14 D	1+							

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
CAPRI S	29	1051	1106		N13	E41	6237	15	1	3	1057	1.80	2.50			
WENDEL	29	1052 E	1111 D		N13	E44	6237	19 D	1				3.00			
SALTSJOBADN	29	1053 E	1103		N12	E42	6237	10 D	1+	2	1054	4.00	5.10			
WENDEL	29	1118	1146 D		N13	E44	6237	28 D	1				3.00			
SALTSJOBADN	29	1120 E	1145 D		N12	E42	6237	25 D	1	2	1142	2.50	3.30			
WENDEL	29	1121 E	1142 D		N13	E41	6237	21 D	1				3.00			
WENDEL	29	1148 E	1216 D		N09	W82	6228	28 D	1+				6.00			
WENDEL	29	1415 E	1437 D		N13	E41	6237	22 D	1				3.00			
WENDEL	30	0810 E	0836 D		N13	E31	6237	26 D	1				3.00			
WENDEL	30	0940 E	1035 D		N13	E30	6237	55 D	1+				6.00			
CAPRI S	30	0948 E	1030 D		N14	E31	6237	42 D	1	3	1000	2.00	2.40			
WENDEL	30	1236 E	1332 D		N13	E28	6237	56 D	1+				6.00			

COMMERCE - STANDARDS - BOULDER

ATHENES	ATHENS, CREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERGH, NETHERLANDS
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN	NIZMIR	KRASNAYA PAKHRA, USSR
CAPETOWN	ROYAL OBSERVATORY, CAPE OF COOD HOPE	KIEV KO	KIEV CAO, USSR	SAC PEAK	SACRAMENTO PEAK, N.MEX., USA
CAPRI F	CAPRI, ITALY (GERMAN)	KIEV KY	KIEV UNIVERSITY, USSR	SALTSJOBADEN	STOCKHOLM, SWEDEN
CAPRI S	CAPRI, ITALY (SWEDISH)	LOCKHEED	LOS ANGELES, CALIF., USA	SCHAUINS	SCHAUINSLAND, GFR
CRIMEE	SIMEIZ, USSR	MCMATH	MCMATH-HULBERT, PONTIAC, MICH., USA	TACHKENT	TASHKENT, USSR
HERSTMONCEU	ROYAL CREENWICH OBSERVATORY, HERSTMONCEUX, ENCLAND	MOSCOU	MOSCOW GAISH, USSR	WENDEL	WENDELSTEIN, GFR

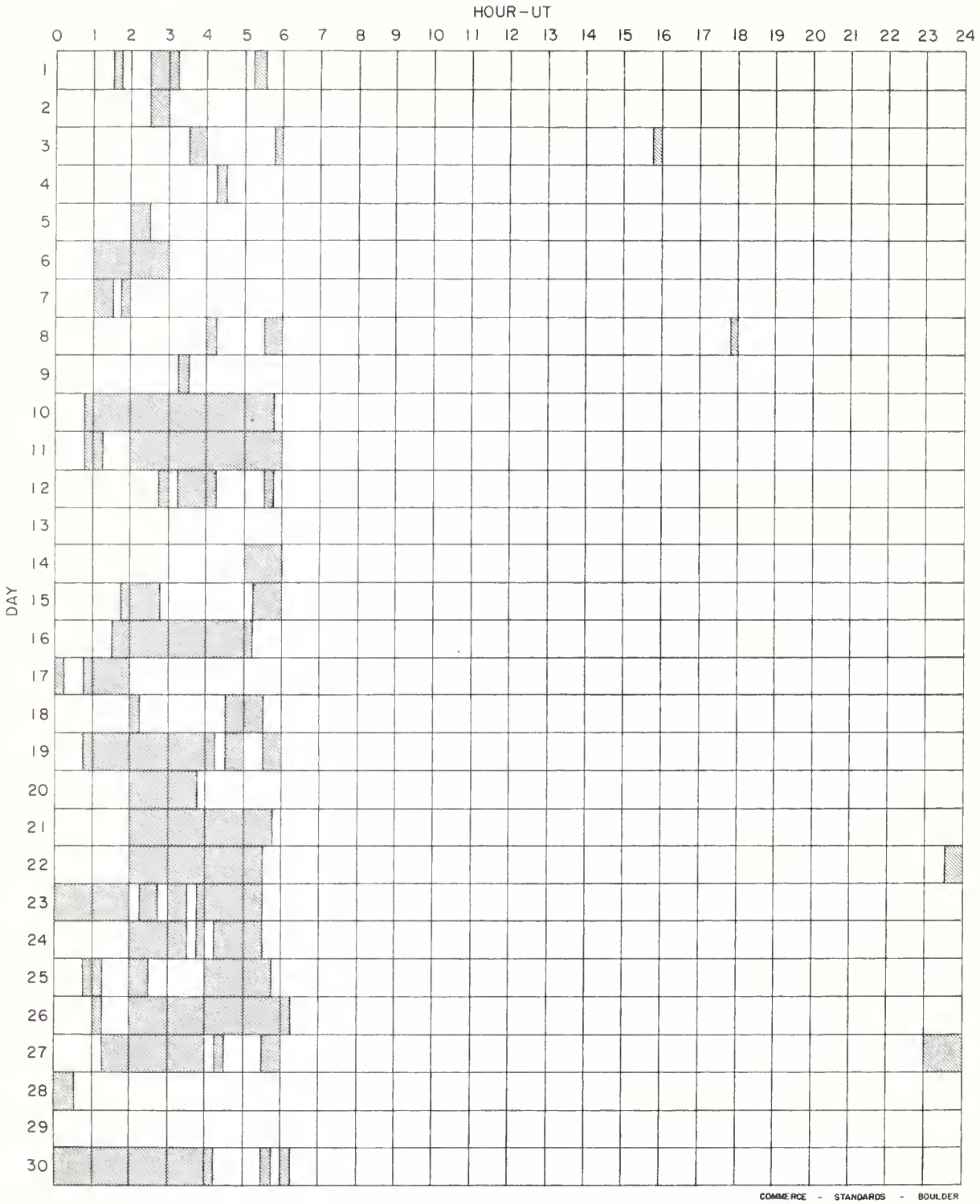
ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

E = LESS THAN D = CREATER THAN U = APPROXIMATE □ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

SEPTEMBER 1961



Stations Include:

Anacapri (Swedish)	Honolulu	Kodaikanal	Meudon
Arcetri	Huancayo	Lockheed	Ondrejov
Bucharest	Istanbul	McMath-Hulbert	Sacramento Peak
			Wendelstein

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

AUGUST 1961

*	CAPRI S	01	0711 E	S22 E23	
	CAPRI S	01	0731 E	N04 W90	
	SAC PEAK	01	1424	S19 E80	
	LOCKHEED	01	1859	N12 E12	
+	LOCKHEED	01	2019	N23 W43	
	SAC PEAK	01	2020	N13 E11	
	LOCKHEED	01	2040	N13 E12	
*	LOCKHEED	01	2120	N23 W43	
	SAC PEAK	02	1316	N22 W56	
+	SAC PEAK	02	1820 E	S05 E90	
+	HAWAII	02	1828	S07 E90	
	HAWAII	03	0122	N24 W62	
	WENDEL	03	1621 E	S16 W44	
	HAWAII	03	1912	S07 E90	
	LOCKHEED	03	2122	S10 E80	
	LOCKHEED	03	2205	S10 E80	
*	MEUDON	04	1115	N20 W20	
+	CAPRI S	04	1126 E	N14 W25	
	SAC PEAK	04	1534	N22 W86	
	SAC PEAK	04	1812	N22 W86	
	WENOEL	05	0753 E	S13 W66	
	WENOEL	05	0817 E	S13 W66	
*	ARCETRI	05	0834	S16 W72	
	LOCKHEED	05	2138	N19 E10	
	LOCKHEED	06	1602	S16 W90	
	LOCKHEED	06	1652	N17 E90	
+	LOCKHEED	06	2029	N17 E85	
	LOCKHEED	07	1624	N16 E90	
	LOCKHEED	07	1704	N08 W05	
*	MEUDON	08	1019 E	S12 E32	
+	CAPRI S	09	0753 E	N08 E67	
	LOCKHEED	09	1638	S03 E90	
+	MCMATH	09	1710	N05 E90	
+	MCMATH	09	1729	N12 E64	
+	LOCKHEED	09	1732	N12 E64	
+	ONDREJOV	10	0520 E	N16 W16	
+	BUCHAREST	10	0700 E	N16 W20	
	WENOEL	10	1054 E	N13 E55	
	WENOEL	10	1115 E	N13 E50	
+	MEUDON	10	1215	N10 E78	
	MEUDON	10	1216	N16 E50	
+	MCMATH	10	1221	N08 E80	
	WENOEL	10	1339 E	N09 E76	
	MCMATH	10	1339	N09 E88	
+	MCMATH	10	1435	N09 E78	
+	CAPRI S	10	1438 E	N08 E75	
+	SAC PEAK	10	1504	N11 E48	
+	MCMATH	10	1505	N13 E49	
+	WENOEL	10	1507 E	N12 E44	
	MCMATH	10	1720 E	N16 W23	
	HAWAII	10	1950	N09 E45	
	LOCKHEED	10	2003	S07 W18	
	LOCKHEED	10	2040	N16 W27	
	LOCKHEED	10	2139	N07 E72	
	LOCKHEED	10	2210	N16 W27	
	LOCKHEED	10	2227	N07 E68	
	HAWAII	10	2308	S15 E69	
	LOCKHEED	11	0002	N10 E70	
	LOCKHEED	11	0010	N04 E70	
+	HAWAII	11	0040	S03 E72	
	MITAKA	11	0355 E	N09 E68	
	MEUDON	11	0637	N07 E64	
	CAPRI S	11	0640 E	N06 E63	
+	MEUOON	11	0810	N07 E64	
	ARCETRI	11	0849	N08 E64	
	LOCKHEED	11	1631	N06 E58	
	MCMATH	11	1635 E	N05 E60	
	LOCKHEED	11	1651	N06 E58	
	MCMATH	11	1653	N05 E60	
	LOCKHEED	11	1708	S03 E61	
	LOCKHEED	11	1729	N09 E90	
	LOCKHEED	11	1745	S02 E60	
	LOCKHEED	11	1818	N05 E58	
	LOCKHEED	11	1835	N00 E90	
	LOCKHEED	11	1920	N05 E58	
	LOCKHEED	11	1936	S01 E90	
*	LOCKHEED	11	1937	N06 E56	
	LOCKHEED	11	2040	N04 E56	
	LOCKHEED	11	2112	S01 E90	
	LOCKHEED	11	2125	N04 E55	
	LOCKHEED	11	2138	N15 W37	
	LOCKHEED	11	2205	S01 E90	
	LOCKHEED	11	2212	N03 E54	
	LOCKHEED	11	2248	N06 E54	
	LOCKHEED	11	2250	S01 E90	
	LOCKHEED	11	2310	N06 E53	
	LOCKHEED	11	2320	N10 E57	
	LOCKHEED	12	0006	N09 E58	
	LOCKHEED	12	0D22	N18 W40	
	KYOTO	12	0154 E	N07 E54	
*	MCMATH	12	1116 E	N05 E47	
	MCMATH	12	1130 E	S11 W60	
	MCMATH	12	1130 E	N18 W47	
	CAPRI S	12	1149 E	N19 W45	
	MCMATH	12	1344	N12 E20	
	LOCKHEED	12	1605 E	N10 E21	
	MCMATH	12	1608	N11 E21	
+	LOCKHEED	12	1612	N16 W49	
*	LOCKHEED	12	1628	N05 E44	
*	MCMATH	12	1631 E	N05 E45	
	LOCKHEED	12	1920	N15 E13	
	LOCKHEED	12	1939	N05 E42	
	MCMATH	12	2032 E	N01 E48	
	HAWAII	12	2050 E	N02 E41	
	CAPRI S	13	0905 E	N05 E36	
	CAPRI S	13	0940 E	N18 E12	
*	CAPRI S	13	1015 E	N05 E33	
	MCMATH	13	1354	S02 E71	
	MCMATH	13	1355	N11 E09	
	MCMATH	13	1410	N05 E32	
	CAPRI S	13	1508 E	N07 E30	
	MCMATH	13	1519	N05 E31	
	LOCKHEED	13	1603	N14 W02	
	LOCKHEED	13	1620	N04 E29	
	LOCKHEED	13	1643	N04 E29	
	LOCKHEED	13	1653	N11 E06	
	SAC PEAK	13	1654 E	N04 E28	
	LOCKHEED	13	1705	N03 E31	
	LOCKHEED	13	1815	S10 W88	
*	HAWAII	13	1908	N05 E28	
+	HAWAII	13	1952 E	N02 E30	
*	MCMATH	13	2007 E	N01 E32	
	LOCKHEED	13	2112	S09 E07	
	LOCKHEED	13	2236	N10 W02	
	LOCKHEED	13	2245	N10 E03	
	LOCKHEED	13	2315	S19 E90	
	LOCKHEED	13	2343	N09 E04	
	LOCKHEED	14	0017	S07 E06	
	HAWAII	14	0108 E	N04 E24	
	KYOTO	14	0113	N06 E26	
-	CAPRI S	14	0940	N15 E03	
	WENDEL	14	1054 E	N09 E24	
	MCMATH	14	1138 E	N15 W06	
	LOCKHEED	14	1605	N14 W80	
+	LOCKHEED	14	1700	N12 W85	
	LOCKHEED	14	1730	N04 E22	
	MCMATH	14	1731	N05 E20	
	WENOEL	14	1732 E	N08 E21	
	LOCKHEED	14	1801	S04 E18	
	MCMATH	14	1803	S04 E20	
	HAWAII	14	1806 E	S04 E19	
	MCMATH	14	1845	N04 E14	
	LOCKHEED	14	1846	N04 E14	
	LOCKHEED	14	2150	N05 E17	
	MCMATH	14	2208 E	N15 W88	
	LOCKHEED	14	2213	N17 W85	
	LOCKHEED	14	2246	N16 W85	
	LOCKHEED	14	2250	S06 E16	
	MCMATH	14	2254 E	S04 E15	
	LOCKHEED	14	2312	N05 E17	
+	SAC PEAK	15	1648 E	N11 W20	
	LOCKHEED	15	1807	N12 W20	
	LOCKHEED	15	1811	N06 E02	
	HAWAII	15	2012 E	S11 W10	
	LOCKHEED	15	2013	N12 W21	
	MCMATH	15	2015	N12 W21	
	LOCKHEED	15	2031	N07 W00	
	HAWAII	15	2120 E	N02 E36	
	LOCKHEED	15	2123	N13 W20	
	LOCKHEED	15	2234	N13 W22	
	LOCKHEED	15	2237	S09 W21	
	KYOTO	15	2313 E	N12 W22	
	HAWAII	16	0018 E	S14 W09	
	CAPRI S	16	0730 E	N11 W04	
	MCMATH	16	1210	N09 W07	
	MCMATH	16	1228	S00 E28	
	MCMATH	16	1256	N09 W09	
+	SAC PEAK	16	1643 E	N02 E26	
	LOCKHEED	16	2030	N04 W14	
	LOCKHEED	16	2040	N16 W90	
	LOCKHEED	16	2225	N07 W11	
	LOCKHEED	16	2341	N06 W09	
	LOCKHEED	16	2355	N08 W13	
	SAC PEAK	17	1422	N06 W17	
	CAPRI S	17	1440 E	N09 W15	
	MCMATH	17	1445	N07 W18	
	SAC PEAK	17	1650	N06 W19	
	LOCKHEED	17	1651	N05 W20	
	LOCKHEED	17	1715	S02 W26	
	LOCKHEED	17	1836	S02 W26	
	MCMATH	17	1839	N00 W25	
-	SAC PEAK	17	2114 E	N08 W23	
	LOCKHEED	17	2253	N05 W22	
	LOCKHEED	17	2255	S04 W59	
	BUCHAREST	18	0850	S00 E25	
+	MCMATH	18	1557	N20 E54	
	LOCKHEED	18	1650	N05 W38	
	LOCKHEED	18	1710	N19 E51	
	LOCKHEED	18	1715	S10 W57	
	MCMATH	18	1717	S09 W60	
	SAC PEAK	18	1720 E	S09 W57	
	LOCKHEED	18	1845	N20 E59	
+	HAWAII	18	2040	N10 W37	
	LOCKHEED	18	2205	N06 W37	
	BUCHAREST	19	0715	N07 W46	
	ISTANBUL	19	0725 E	N08 W50	
	LOCKHEED	19	1724	N04 W48	
	LOCKHEED	19	1757	N04 W48	
	LOCKHEED	19	1818	N05 E22	
	LOCKHEED	19	1830	N04 W48	
	LOCKHEED	19	2101	N11 W78	
	LOCKHEED	19	2202	N04 W51	
	LOCKHEED	19	2220	N04 W48	
	LOCKHEED	19	2303	N04 W51	
	ISTANBUL	20	0830 E	N10 W57	
	LOCKHEED	20	1755	N07 W63	
	LOCKHEED	20	1825	N07 W63	
	LOCKHEED	20	2138	N22 E70	
	LOCKHEED	20	2148	N12 E85	
	LOCKHEED	20	2215	S02 W34	
	LOCKHEED	20	2300	N12 E85	
	LOCKHEED	20	2346	S01 W36	
	ISTANBUL	21	0730	N08 W70	
	WENDEL	21	0744 E	N19 E15	
	LOCKHEED	21	2105	N09 W06	
	MCMATH	22	1512 E	N08 E60	
	SAC PEAK	22	1538	N10 E59	
	MCMATH	22	1627 E	N09 E60	
	LOCKHEED	22	1640	N11 E58	
	LOCKHEED	22	1910	N11 E58	
	LOCKHEED	22	2310	N12 E57	
	LOCKHEED	22	2357	N10 E57	
	LOCKHEED	23	1756	S15 E56	
	LOCKHEED	23	1841	S13 E50	
	SAC PEAK	23	1844 E	S13 E50	
	HUANCAYO	23	1845	S12 E54	
	LOCKHEED	23	2057	N19 W26	
	HAWAII	24	1940 E	N08 E28	
	HAWAII	24	2320 E	S21 E11	
-	CAPRI S	25	1405 E	N14 E05	
	SAC PEAK	25	1608	N16 W01	
	LOCKHEED	25	1625 E	N17 W02	
	LOCKHEED	25	1911	S13 E11	
	SAC PEAK	25	1914	S17 E12	
	LOCKHEED	25	2006	N06 E12	
	MCMATH	25	2010 E	N18 W01	
	SAC PEAK	25	2010 E	N19 W02	
	LOCKHEED	25	2210	N16 W05	
	MCMATH	25	2216	N16 W05	
-	LOCKHEED	25	2357	N17 W04	
	HAWAII	26	0000 E	N17 W03	
+	ONDREJOV	26	0613 E	N08 E08	
-	CAPRI S	26	0620	N09 E09	
	WENOEL	26	0652 E	N16 W08	
	WENDEL	26	0729 E	N12 E13	
+	MEUDON	26	1005	S18 E09	
+	CAPRI S	26	1008	S16 E04	
	SAC PEAK	26	1518	N20 W10	
	WENDEL	26	1614 E	N15 W14	
	MCMATH	26	1618	N15 W15	
	LOCKHEED	26	1905	N11 W11	
	MCMATH	26	1907	N12 W12	
	LOCKHEED	26	2207	N10 W04	
	HAWAII	26	2220 E	N20 W02	
	MCMATH	26	2230 E	N06 W02	
	LOCKHEED	26	2258	N17 W17	
	LOCKHEED	27	0018	N20 W15	
	WENDEL	27	1133 E	N16 W25	
	LOCKHEED	27	1729	N11 W26	
	LOCKHEED	27	2015	N11 W26	
	LOCKHEED	27	2045	S17 W16	
	MCMATH	28	2111	S07 W09	
	STOCKHOLM	29	1021 E	N08 E90	
	MEUDON	29	1215	N12 E80	
	WENDEL	29	1229 E	N20 W55	
	WENDEL	29	1349 E	N12 E76	
	WENDEL	29	1529 E	N12 E74	
	MCMATH	29	1715	N12 E78	
	WENOEL	29	1717 E	N13 E72	
	SAC PEAK	29	1718 E	N14 E73	
	HAWAII	29	1740	N12 W51	
	HAWAII	29	1846 E	N09 E70	
	MCMATH	29	1937	N11 E75	
	MCMATH	29	2021	N11 E73	
	MCMATH	29	2106	N11 E75	
	HAWAII	30	0100	N11 E55	
	WENOEL	30	0902 E	N12 E68	
	MCMATH	30	1200	N11 E64	
	MCMATH	30	1357	N12 E61	
+	ONDREJOV	30	1400	N14 E58	
+	MCMATH	30	1606	N11 E60	
+	HUANCAYO	30	1607 E	N11 E60	
-	MCMATH	30	1621	N16 W68	
	MCMATH	30	1649	N12 E61	
	MCMATH	30	1905 E	N10 E60	
	HAWAII	30	1934 E	N10 E59	
+	HAWAII	30	2248 E	N09 E58	
-	HAWAII	30	2318	N11 E56	
	KYOTO	31	0251 E	N13 E60	
*	MEUDON	31	0858	N12 E45	
-	BUCHAREST	31	0859	N17 W73	
*	ONDREJOV	31	0906 E	N13 E48	
	WENOEL	31	0926 E	N12 E48	
*	MEUOON	31	1100	N12 E45	
*	CAPRI S	31	1106 E	N13 E47	
	MCMATH	31	1135	N12 E49	
	ONDREJOV	31	1258	N11 E48	
	MCMATH	31	1258	N11 E51	
	ONDREJOV	31	1330 E	N17 W77	
+	MEUOON	31	1458	N11 E45	
+	CAPRI S	31	1500	N13 E45	
*	MCMATH	31	1501	N12 E46	
	MCMATH	31	1752	N11 E45	
	HAWAII	31	1752 E	N11 E45	
	SAC PEAK	31	1756	N12 E45	
	MCMATH	31	2110	N13 E43	
	MCMATH	31	2113	N18 W85	
	MCMATH	31	2135	N18 W85	

COMMERCE STANDARDS BOULDER

*Rated as flare of importance≥1 by other observatories (See CRPL-F 203 Part B for September 1961)

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT.	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX INT °.	PROVISIONAL IONOSPHERIC EFFECT
GOOD HOPE	02	1309	1340	1325	N10	W87	6125	31	1		1325	1.10				
GOOD HOPE	04	1023	1038	1026	N02	E50	6135	15	1		1026	2.00	3.10			
CAPRI G	04	1041 E	1044 D		N04	E50	6135	3 D	1+	2			5.00			
UCCLE	05	1000	1010		N00	E38	6135	10	1	2		2.00	2.20			
CAPRI G	06	1251 E	1303 D		N02	E20	6135	12 D	1+	2			5.00			
KHARKOV	07	0636 E	0644 D		S05	W12	6134	8 D	1	2	0640	2.29	2.30			
KRASNYA	07	0732	0858 D	0734 U	N00	E09	6135	86 D	1			1.80			65	
KRASNYA	07	0732	0858 D	0748 U	N00	E09	6135									
GOOD HOPE	07	0830	0920	0852	N04	E13	6135	50	2		0852	7.50	7.70			S-SWF
CAPRI G	07	0850 E	0921		N02	E09	6135	31 D	2	2			6.00			
KHARKOV	08	0758 E	0808		N06	W85		10 D	1+	2	0800	1.14	6.80	2.70		
KHARKOV	08	1136 E	1145		S03	E60	6138	9 D	1	2	1140	1.14	6.80	1.50		
BUCHAREST	09	0745	0900	0824	N02	E81	6140	75	1	2			3.20			
CAPRI G	09	1240 E	1335		N01	W23	6135	55 D	1	2			4.00			
KIEV	09	1250 E	1325 D	1254	S10	W21	6135	35 D	1+	2	1254	3.61			64	S-SWF
UCCLE	09	1251 E	1318 D		N02	W22	6135	27 D	□	1		3.50				
CLIMAX	09	1255 E	1323 D	1256	N00	W21	6135	28 D	1			5.10	5.10			
CAPRI G	09	1435 E	1450 D		N01	E88	6140	15 D	1	2			4.00			S-SWF
BUCHAREST	10	0816	0836	0825	N02	W32	6135	20	1	2			4.00			
MITAKA	11	0427	0458	0443	N02	W43	6135	31	1	2	0443	1.80	2.35	2.09	96	
PIRCULI	11	0711	0720	0717 U	N00	E57	6140	9	1	2		1.45			52	
KRASNYA	11	0828	0836	0831	N00	W46	6135	8	1			1.70			70	
CAPRI G	11	0941 E	0950 D		N02	E70	6140	9 D	1	2			4.00			
PIRCULI	11	0945 E	1055 D	1005 U	N05	E57	6140	70 D	1	2		2.28			56	
OTTAWA	11	1009 E	1052	1009	N05	E59	6140	43 D	1			1.50	2.10			
CAPRI G	11	0948 E	1107 D		N01	W46	6135	79 D	2	2			8.00			
PIRCULI	11	0959 E	1100 D	1038 U	N01	W48	6135	61 D	2	2		8.21			56	
OTTAWA	11	1009 E	1141	1041	N00	W49	6135	92 D	1			3.70	4.40			
GOOD HOPE	11	1024 E	1145		N02	W48	6135	81 D	2		1035	4.20	6.10			
CAPRI G	11	1502 E	1612 D		N02	W51	6135	70 D	2+	2			10.00			S-SWF
CLIMAX	12	0107	0122 D	0115	N02	W56	6135	15 D	1			2.20	3.10			
TASHKENT	12	0254 E	0304		N04	E49	6140	10 D	□	2	0254	.36	.60		56	
MITAKA	12	0254 E	0318		N03	E49	6140	24 D	1	2	0254	1.03	1.58	2.07	149	
TASHKENT	12	0548	0621 D	0610	N00	W57	6135	33 D	□	2	0610	.64	1.20		84	
MITAKA	12	0549	0632	0555	N02	W56	6135	43	1	2	0555	1.54	2.67	2.06	120	
TASHKENT	13	0439	0456	0442	N02	E28	6140	17	□	2	0442	1.37	1.60	3.00	85	
KRASNYA	13	0733 E	0751 D	0742 U	N02	E27	6140	18 D	1+			3.15			90	
ABASTUMANI	13	0733 E	0757 D	0743 U	N02	E26	6140	24 D	1	3		4.50	5.00		74	
KIEV	13	0741 E			N01	E25	6140		1+	1	0741	3.09			78	
BUCHAREST	13	0741	0758	0744	N02	E27	6140	17	1	1			3.00			
GOOD HOPE	14	0933	0959	0935	N02	E12	6140	26	1		0935	3.60	3.70			
SCHAUINS	14	0934	0952		N04	E16	6140	18	1	2			4.00			

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
KHARKOV	14	0934 E	1005	0938	N01	E11	6140	31 D	2	3	0938	14.44	14.80	3.50		S-SWF
UCCLE	14	0936 E	0949		N01	E11	6140	13 D	1	2		3.50				
KRASNYA	14	0937 E	0948	0938 U	N02	E13	6140	11 D	2		0934	3.60			110	
KIEV	14	0938 E	0955 D	0938	N02	E10	6140	17 D	2	3	0938	4.13			99	
KHARKOV	14	1033	1044		S02	E15	6140	11	1	3	1041	.57	.60	1.50		
KHARKOV	14	1109	1117		S00	E13	6140	8	1	3	1117	.57	.60	1.50		
UCCLE	14	1618	1650	1631	N02	E07	6140	32	1+	2	1631	4.50	4.50			Slow S-SWF
SCHAUINS	14	1621 E	1645		N05	E17	6140	24 D	1	2			5.00			
MITAKA	14	2334 E	2356		N02	E02	6140	22 D	1	1	2335	1.02	1.02	1.82	120	
KYOTO	14	2336	2350 D		N02	E03	6140	14 D	1		2336	4.74		1.23	100	
KYOTO	14	2348	0006 D		S05	E90	6146	18 D	1						80	
KYOTO	15	0530 E	0556 D	0543	S08	W34	6142	26 D	1		0543	2.06		1.71	100	
KYOTO	15	0654 E	0710		N02	W90	6145	16 D	1		0654	4.13				
KRASNYA	15	0709 E	0711		N07	W90	6145	2 D	1			.90				
UCCLE	15	0900	0922		S08	E40	6144	22	1	2						
KHARKOV	15	0939	0950		S06	E38	6144	11	1	2	0947	.57	.70	1.60		
GOOD HOPE	15	0940	0952	0941	S07	E38	6144	12	1		0941	2.10	2.70			
GOOD HOPE	15	0955	1024	1006	S07	E38	6144	29	1		1006	2.70	3.50			
KRASNYA	15	1001	1010 D	1004	S04	E38	6144	9 D	1			1.80			70	
KHARKOV	15	1002 E	1023 D		S05	E36	6144	21 D	1	2	1004	1.18	1.30	2.00		
SCHAUINS	15	1003 E	1050		S12	E37	6144	47 D	1	2			3.00			
CLIMAX	15	1630 E	1713 D		N05	W09	6140	43 D	2		1640	7.70	7.70			S-SWF
CLIMAX	15	1705 E	1713 D	1708	S09	E29	6144	8 D	1			2.80	2.80			
CLIMAX	15	1722 E	1729		N02	W07	6140	7 D	□		1724	1.30	1.30			S-SWF
UCCLE	16	0829 E	0841		N14	W87	6145	12 D	□	3						
UCCLE	16	0842	0859	0846	S07	E22	6144	17	1	3	0846	3.50	3.50			
KIEV	16	0848 E	0910 D		S06	E22	6144	22 D	1	1	0848	2.06			74	
MITAKA	17	0455 E	0503 D		S08	E09	6144	8 D	1	1	0458	1.23	1.27	2.07	143	
ABASTUMANI	17	0718	0737 D	0723	N04	W38	6140	19 D	1	3		1.80	2.10		74	
PIRCULI	17	0721	0730	0725	N03	W28	6140	9	1	3		2.28			62	
GOOD HOPE	17	1303	1320	1309	S06	W71	6142	17	1		1309	.90	2.70			
VOROSHILOV	17	2254	2316	2358	S07	W80	6142	22	1+	2		.72			82	
TASHKENT	18	0356	0436	0402	S08	E45	6146	40	1	3	0401	3.09	4.40	2.10	75	
MITAKA	18	0400 E	0425	0403	S08	E40	6146	25 D	1	1	0403	1.03	1.50	2.06	107	
OTTAWA	18	1314	1353 D	1324	S10	E41	6146	39 D	1			2.80	3.10			
CLIMAX	18	1315	1350	1330	S11	E41	6146	35	1			3.30	3.60			
GOOD HOPE	18	1318	1344	1329	S11	E40	6146	26	1		1329	1.90	2.50			
OTTAWA	18	1345	1359	1349	S10	W40	6143	14	1			4.60	5.10			
KYOTO	18	2330	2340		S05	W90	6142	10	1		2330	1.44			80	
MITAKA	19	0143 E	0159		S09	W45	6144	16 D	1	1	0146	3.09	4.38	2.49	128	
PIRCULI	19	0805	0830	0814 U	N14	E07	6151	25	1	3		1.37			56	
UCCLE	19	1124 E			S09	W53	6143		1	2		2.00	3.20			
ALMA-ATA	20	0345	0541 D	0358	N12	W04	6151	116 D	1	2	0358	2.68			70	
MITAKA	20	0402 E	0427 D	0405	N14	W05	6151	25 D	1	1	0405	.51	.52	2.06	125	
BUCHAREST	20	0726	0810	0734	N13	E45	6149	44	2	2			8.80			

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME U.T.	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX WIDTH Hα	MAX. INT °₀	PROVISIONAL IONOSPHERIC EFFECT
PIRCULI	20	0729	0749	0731 U	N12	E45	6149	20	1	3		2.09			56	
SIMEIZ	20	0731	0742	0734	N12	E45	6149	11	1	2	0734	2.70			113	
KHARKOV	20	0733 E	0750	0735	N23	E37	6148	17 D	1	2	0735	3.43	4.50	1.70		
UCCLE	20	0747 E	0747		N14	E45	6149		1	3						
GOOD HOPE	20	1100	1120	1103	N15	E44	6149	20	1		1103	1.80	2.60			
GOOD HOPE	20	1256	1303	1257	N12	E44	6149	7	1		1257	1.50	2.10			
MITAKA	21	0036	0043		N12	W14	6151	7	1	1	0043	.34	.39	1.53	105	
MITAKA	21	0426 E	0446 D		N14	W19	6151	20 D	1	1	0426	1.23	1.30	2.81	143	
MITAKA	21	0458	0513		N13	W20	6151	15	1	1	0458	1.23	1.30	1.96	115	
KHARKOV	21	0900 E	0953		N13	W22	6151	53 D	1	2	0942	2.29	2.50	1.70		
KHARKOV	21	0959	1018		N13	W24	6151	19	1	2	1009	3.43	3.70	1.50		
KHARKOV	21	1048	1157		N14	W24	6151	69	1	2	1053	2.29	2.50	1.50		
UCCLE	21	1106	1119	1111	N15	W24	6151	13	1	3	1111	3.00	3.30			
GOOD HOPE	21	1107	1126	1109	N14	W23	6151	19	1		1109	2.40	2.70			
CLIMAX	21	1317	1331	1323	N15	W25	6151	14	1			2.70	2.70			
GOOD HOPE	21	1318	1328	1321	N14	W23	6151	10	1		1321	2.30	2.50			
UCCLE	21	1348	1402	1354	N12	E29	6149	14	1	3	1354	3.00	3.30			
ABASTUMANI	22	0621	0642 D	0624	N14	W36	6151	21 D	1	2		1.98	2.60		68	
UCCLE	22	1109	1131	1113	S11	E31	6152	22	1	3	1113	2.50	3.30			
UCCLE	22	1141	1210 D	1157	N22	E05	6148	29 D	1	3	1157	2.20	2.20			
CLIMAX	22	1637	1648	1641	N15	W44	6151	11	1			3.70	4.40			
KHARKOV	23	0806 E	0831		N12	W52	6151	25 D	1	2	0816	2.86	4.40	1.80		
KHARKOV	23	1015 E	1151 D	1103	N11	W53	6151	96 D	1+	2	1050	6.87	11.60	1.70		
GOOD HOPE	23	1044	1052	1045	N12	W54	6151	8	1		1045	1.50	2.70			
GOOD HOPE	23	1106	1128	1112	N12	W54	6151	22	1		1112	2.10	3.70			
UCCLE	23	1107	1132	1112	N11	W52	6151	25	1	3	1112	1.50	2.20			
KIEV	23	1112 E	1155 D	1112	N13	W53	6151	43 D	2−	1	1112	8.25			98	
KIEV	23	1112 E	1155 D	1124	N13	W53	6151									
KHARKOV	23	1113 E	1240 D		N20	W08	6148	87 D	1	2	1216	3.43	3.70	1.50		
UCCLE	23	1151	1248	1209	N22	W07	6148	57	1	3	1209	3.00	3.00			
GOOD HOPE	23	1154	1237	1204	N23	W18	6148	43	1		1204	2.90	3.10			
CAPRI G	23	1159 E	1222		N12	W53	6151	23 D	1	2			4.00			
KIEV	23	1200 E	1240 D	1205	N22	W09	6148	40 D	1	1	1205	2.06			74	
KIEV	23	1402	1404 D		N13	W55	6151	2 D	1+	1	1404	2.06			110	
UCCLE	23	1403	1420	1404	N11	W52	6151	17	1	3	1404	2.10	3.10			
CAPRI G	23	1404 E	1412		N11	W56	6151	8 D	1	2			4.00			S-SWF
UCCLE	23	1507 E	1513	1507	N13	W52	6151	6 D	□		1507					
UCCLE	24	1022	1036	1029	N23	W20	6148	14	1	3	1209	3.20	3.50			
GOOD HOPE	24	1034	1046	1036	N12	W66	6151	12	1		1036	1.10	2.70			
KIEV	24	1050 E	1100 D		N13	W63	6151	10 D	1	1	1051	1.55			98	
BUCHAREST	25	0845	0903	0846	N13	W90	6151	18	1+	2						
GOOD HOPE	25	1255	1325	1302	N22	W36	6148	30	1		1302	1.70	2.20			
CAPRI G	25	1308 E	1325		N14	W28	6149	17 D	1	2			4.00			
VOROSHILOV	26	0225	0229	0227	N13	W90	6151	4	1	1		.63			68	
GOOD HOPE	26	0801	0830	0814	N14	W90	6151	29	1		0814	.20				
GOOD HOPE	26	0951	1036	0954	N17	W35	6149	45	1		0954	2.90	3.60			
PIRCULI	26	1012 E	1025 D	1019 U	N13	W38	6149	13 D	1+	1		7.75			64	

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
UCCLE	26	1014 E	1035 D		N14	W37	6149	21 D	1+	2		4.20	5.00			
PIRCULI	27	0701 E	0800	0731 U	N06	E17	6155	59 D	1	1		4.56			65	
BUCHAREST	27	0725 E	0815	0725	S05	E18	6155	50 D	1	2			4.90			
CAPRI G	27	0740 E	0755		N06	E16	6155	15 D	1	2			5.00			
BUCHAREST	28	0740 E	0740	0740	N14	W56	6149		1	2			2.10			
KIEV	29	1318	1319 D	1319	N16	W75	6149	1 D	1+	2	1319	2.06			60	
NEDERHORST	29	1320 E	1335		N14	W74	6149	15 D	1+	3						
UCCLE	29	1423	1433	1424	N15	W73	6149	10	1	3	1424	2.20	4.40			
ALMA-ATA	30	0300 E	0315	0300	N07	W23	6155	15 D	1	2	0300	2.68			68	
KRASNYA	30	0706	0716	0711	N16	W85	6149	10	1			1.80			75	
PIRCULI	30	0744	0755	0744 U	N07	W28	6155	11	1	1		1.64			56	
KRASNYA	30	0745	0751	0746	N08	W28	6155	6	1			1.80			90	
CAPRI G	30	0825	0836		N06	W30	6155	11	1	2			4.00			

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the June 1961 flares published in CRPL-F 203 Part B, July 1961.

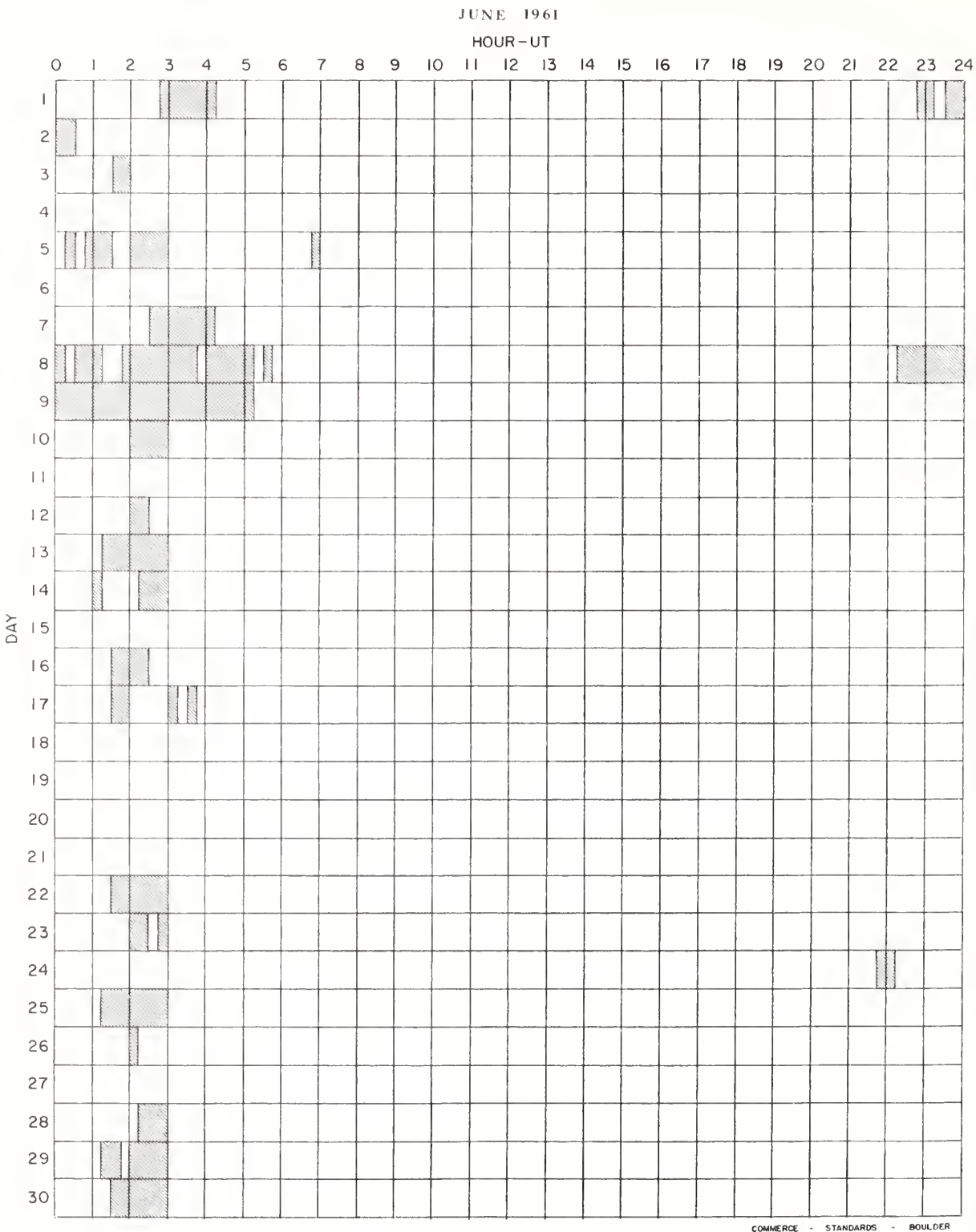
ATHENES	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERGH, NETHERLANDS
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN	NIZMIR	KRASNAYA PAKHRA, USSR
CAPETOWN	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	KIEV KO	KIEV GAO, USSR	SAC PEAK	SACRAMENTO PEAK, N.MEX., USA
CAPRI F	CAPRI, ITALY (GERMAN)	KIEV KY	KIEV UNIVERSITY, USSR	SALTSJOBADEN	STOCKHOLM, SWEDEN
CAPRI S	CAPRI, ITALY (SWEDISH)	LOCKHEED	LOS ANGELES, CALIF., USA	SCHAUINS	SCHAUINSLAND, GFR.
CRIMEE	SIMEIZ, USSR	MCMATH	MCMATH-HULBERT, PONTIAC, MICH., USA	TACHKENT	TASHKENT, USSR
HERSTMONCEU	ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND	MOSCOU	MOSCOW GAISH, USSR	WENDEL	WENDELSTEIN, GFR

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

E = LESS THAN D = GREATER THAN U = APPROXIMATE □ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS



Stations Include:

Arcetri	Crimee	Ikomasan	McMath-Hulbert	Ondrejov
Bucharest	Herstmonceux	Kharkov	Meudon	Sacramento Peak
Capetown	Honolulu	Kodaikanal	Mitaka	Uccle
Capri (Swedish)	Huancayo	Lockheed	Nizmir	Voroshilov
				Wendelstein

IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS
SUDDEN COSMIC NOISE ABSORPTION
SUDDEN ENHANCEMENTS OF ATMOSPHERICS
SUDDEN PHASE ANOMALIES
SOLAR NOISE BURSTS AT 18 Mc

AUGUST 1961

AUG. 1961	UNIVERSAL TIME START	END	MAX	SWF TYPE	IMP	IMPORTANCE ABS	SCNA	SEA	SPA	BUR	WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
01	2012	2040	2020						X		1	BO	
01	2020	2100		SL	1						5	FM AN BE MC PR	
01	2025	2115	2035					1			1	A6	2020
01	2030	2033								1	5	BO HA	
01	2043	2044								1	5	BO HA	
05	1710	1711								1	4	BO MC	
06	2010	2012								1	5	BO HA MC	
07	2116	2205	2125					2			3	A1 A3 A5	
08	2250	2330	2302						X		1	BO	
09	1928	1933								1	4	BO MC (Group)	
10	0002	0004								1-	5	BO HA MC	
+ 10	1432	1443								2	5	BO HA MC RE	1434
10	1435	1500	1445					1			3	A1 A3	1434
10	1505	1510								2	5	RE BO HA MC	1502
10	1532	1538								2	5	RE BO HA MC	
10	2321	2346	2328					1			1	TY	2309
11	1301	1307								2	1	RE	
11	1400	1407								1	1	RE	
11	1632	1634								1	4	BO MC	
* 11	1718	1805	1732					2			3	A1 A5	
11	1820	1835								1	4	BO MC (Group)	
11	1934	2020	1952						X		1	BO	
* 11	1939	2015	1952			10	1				5	BO HA	
11	1942	2020		S	1-						4	MC BE PR WS	1956
11	1944	2026	2004					1+			5	BO A1 A5 A6 HA	
11	2027	2028								1	5	BO HA MC	
11	2145	2149								2	5	BO HA MC RE	
12	0030	0036								2	1	HA	
++ 12	1530	1536								1+	5	RE BO HA MC	
12	1614	1635								1	5	RE BO HA MC (Group)	
12	1615	1645	1630					1+			3	A5 A1 A3	
12	1711	1717								2	5	RE BO HA MC	
12	1940	2010U	1947					1			3	A5 A1 A3	
12	2052	2105		S	1-						3	MC BE PR	2050
13	0344	0424	0351					1			1	TY	0340
13	0346	0359		S	1						4	TO OK	
13	1135	1220	1152					2			3	A5 A1	
+++ 13	1907	1914								2	5	RE BO HA MC	1906
14	1400E	0145D								1	5	BO HA MC (Noise Storm)	
14	1500	1530	1510						X		1	BO	1400
15	1400E	0100D								1	5	BO HA MC RE (Noise Storm)	
15	1643	1720	1652						X		1	BO	1640
* 15	1647	1708	1655					1+			5	A5 A9	

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS
SUDDEN COSMIC NOISE ABSORPTION
SUDDEN ENHANCEMENTS OF ATMOSPHERICS
SUDDEN PHASE ANOMALIES
SOLAR NOISE BURSTS AT 18 Mc

AUGUST 1961

AUG 1961	UNIVERSAL TIME START	UNIVERSAL TIME END	UNIVERSAL TIME MAX	SWF TYPE	SWF IMP	IMPORTANCE ABS	IMPORTANCE SCNA	IMPORTANCE SEA	IMPORTANCE SPA	IMPORTANCE BUR	WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
16	1200E	0045D								1	5	BO HA MC RE (Noise Storm)	
17	2103	2112								3	5	BO HA MC RE	2102
18	2036	2050								3	5	BO HA MC RE (Group)	
18	2040	2120		S	1+						5	BE BO FM HU LA MC PR WS	
18	2040	2220	2055						X		1	BO	
* 18	2045	2135	2107					3			5	BO A1 A5 A9 HA MC	2038
18	2049E	2200U					X				5	BO HA MC	
18	2105	2109								1	5	BO HA MC	
18	2152	2203								1	5	BO HA (Group)	
23	1338	1425	1352					1			3	A1 A5	
23	1740	0200								1	5	BO HA (Noise Storm)	
23	2114	2127								1	5	BO HA MC (Group)	
29	0730	0800	0745					1+			1	A11	0722
29	2000	2002								1	5	BO HA	
31	0100	0131	0107			20	1				1	HA	0058E
31	0102	0130		S	1+						1	TO	

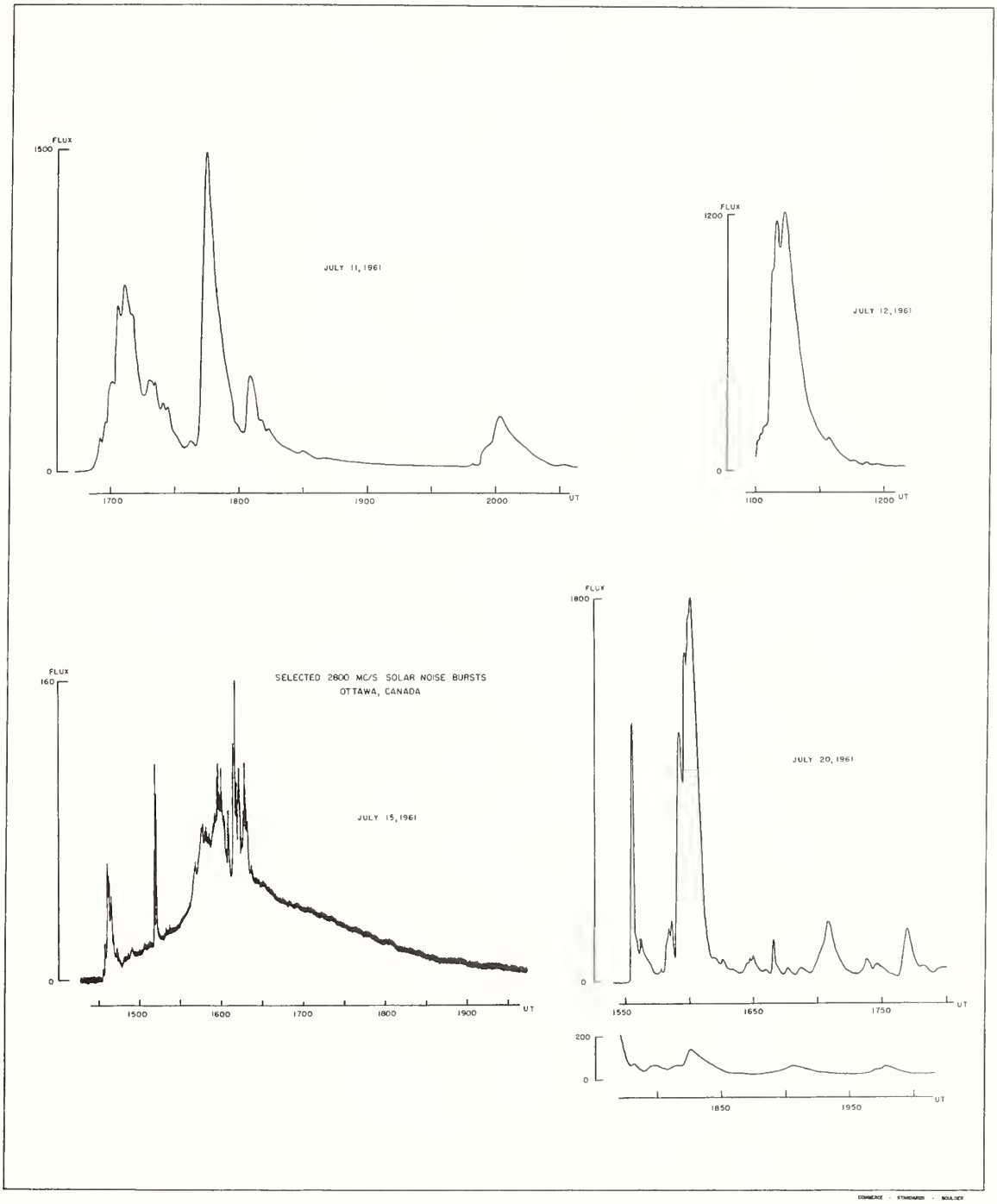
COMMERCE - STANDARDS - BOULDER

Notes:

1. The times of observation of the events are those of the first station listed in the "STATIONS" column.
2. Under SWF type: S = S-SWF; SL = Slow S-SWF.
3. Column headed "ABS" is the percent absorption of the SCNA.
4. Column headed "BUR" is for solar noise bursts at 18 Mc.
5. Column headed "SPA" is sudden phase anomalies as observed at Boulder, Colorado on GBR-England.
6. LA = Los Angeles, Calif; TO = Hiraiso Radio Wave Observatory, Japan; TY = Research Institute of Atmospherics, Toyokawa, Japan.
7. Asterisk * indicates Sudden Enhancement of Signal from 18 kc (NBA Panama Canal Zone) observed by A5.
8. + = Intermittent bursts all day 1432-0128 BO HA MC
   ++ = Intermittent bursts all day 1515-0100 BO HA MC
   +++ = Intermittent bursts all day 1249-0102 BO HA MC.

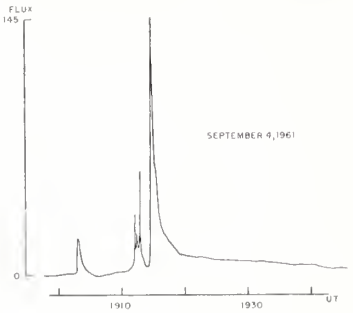
OTTAWA 2800 Mc OUTSTANDING OCCURRENCES

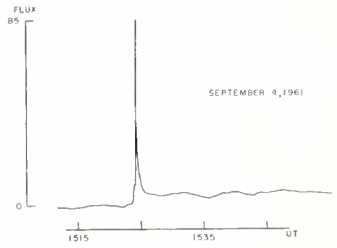
JULY 1961

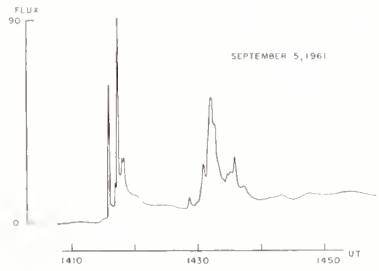


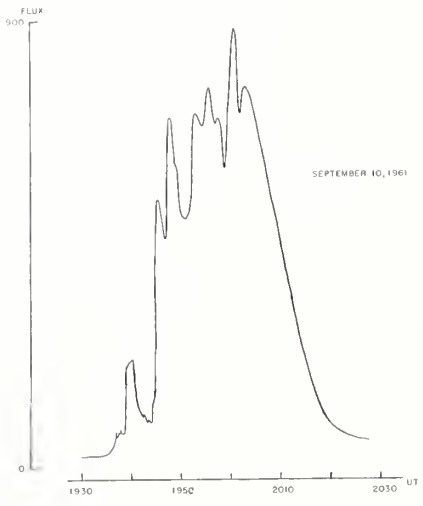
OTTAWA 2800 Mc OUTSTANDING OCCURRENCES

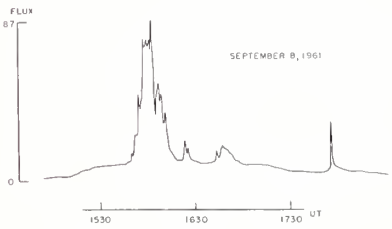
SEPTEMBER 1961











SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

SEPTEMBER 1961

OTTAWA

2800 MC

SEPTEMBER 1961	TYPE	START UT	DURATION HRS MINS	MAXIMUM TIME UT MAX	MAXIMUM PEAK FLUX	MAXIMUM MEAN FLUX	REMARKS
3	3 Simple 3 f A	1402	3 2	1500	6	3	
	1 Simple 1	1425.5	4.5	1427	5	3	
3	2 Simple 2 f	2042	10	2045.5	270	35	
	4 Post Increase		> 1 58		8	2.4	
4	3 Simple 3 A	1425	6 40	indet.	6	3.7	
	2 Simple 2 f	1431.5	2	1432.3	46	12	
	4 Post Increase		14.5		7	3.5	
	2 Simple 2	1513.7	2.5	1514	85	23	
	4 Post Increase		42.8		4	2	
4	2 Simple 2 f	1902.8	2.2	1903.2	16	7	
	6 Complex f	1911	8	1914.8	143	20	
	4 Post Increase		31		8	4	
5	3 Simple 3 A	1415	7 40	indet.	12	6.5	
	6 Complex f	1415.5	7	1417.2	88	12	
	6 Complex f	1428.3	10.7	1432	50	13	
5	1 Simple 1	1509.9	2.1	1510.3	6	3	
	2 Simple 2	1647	8	1652	20	11	
	4 Post Increase		1 3		8	5	
6	3 Simple 3	1535	6 50	2005	9	5	
8	3 Simple 3 A	1430	6 45	indet.	9	6	
	6 Complex f	1546	31	1602	78	29	
	2 Simple 2 f	1621.8	5.2	1623.2	10	4	
	6 Complex	1641	16	1647.2	9	4.5	
	2 Simple 2	1754.3	4.2	1755.3	25	8	
	2 Simple 2	1945	2.8	1946.3	11	3.5	
8	3 Simple 3	2201	29	2205	4	2	
10	9 Precursor	1545	3 45		6	3	
	6 Complex f	1930	1 1	2001	880	300	
	4 Post Increase		> 2 00		44	-	
12	1 Simple 1	1512.2	2.8	1513	3	1	
12	3 Simple 3	1817	1 2	1832	6	3.3	
13	3 Simple 3	1633	32	1648	5	3	
17	3 Simple 3 f	1305	2 8	1330	4	3	
17	1 Simple 1	1730.5	1.5	1731.8	4	3	
17	2 Simple 2 f	1750.2	7.7	1752.4	18	4	
	4 Post Increase		47		2	1	
25	2 Simple 2	1839.5	2	1840.3	12	5	
27	6 Complex	1952.5	2	1952.7	13	5	
28	1 Simple 1	1528.5	2	1529	6	2	
28	2 Simple 2 f	2211	> 30	2218	800	-	Interference present

COMMERCE - STANDARDS - BOULDER

HOURS OF OBSERVATION: JULY, AUGUST, SEPTEMBER 1961

OBSERVING PERIOD:

July	10:50 UT - 24:10 UT (approx)
August	11:05 UT - 23:40 UT (approx)
September	11:35 UT - 22:45 UT (approx)

with the following exceptions:

(1) Observations commenced: July 13 - 12:25
14 - 12:00
18 - 12:15
August 17 - 11:55
29 - 12:00
September 3 - 12:15
4 - 12:20
10 - 12:20
13 - 12:10

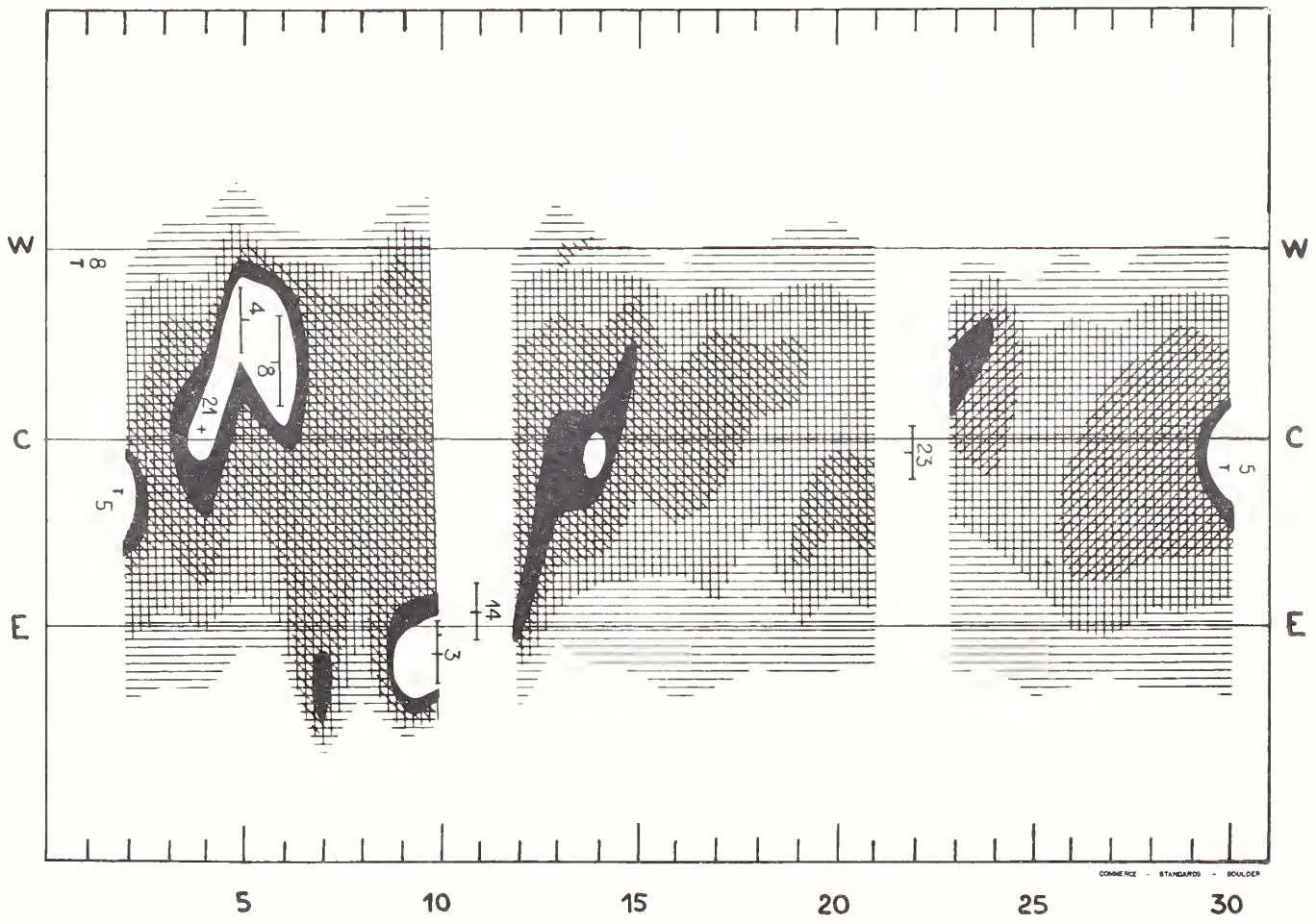
(2) Observations ended: August 27 - 22:50
29 - 23:00
31 - 23:00

(3) No observations: August 27 - 17:20 to 18:40.

(4) Interference obscured portions of the records on 70 days during this quarter.

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay SEPTEMBER 1961 169 Mc



SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
SEPTEMBER 1961

BOULDER 108 Mc.

Sep 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	6	1232 E		155 D	1
2	2	1404.0	1411.0	14	3
2	3	1431.9	1432.6	2.8	3
2	3	2308.5	2309.8	1.5	2
2	8	2312.0	2317.0	8.0	2
2	8	2352.9	2357.0	8.0	3
3	3	2050.0	2050.7	2.0	2
6	7	1625		185	2
7	3	1245.9	1246.5	2.0	2
8	9	1556.0	1603.1	28	2
10	7	1934.0	1939.3	40	2
15	3	1504.0	1504.5	1.0	2
17	3	1741.5	1742.5	1.1	2
21	7	1734		415	2
25	3	1927.5	1928.2	1.0	2
25	3	2357.3	2358.0	1.3	3
27	3	1543.6	1544.5	1.5	3
27	8	1604.2	1607.5	4.0	3
27	2	1952.5	1953.4	12	2
28	9A	2213.0	2217.0	9	3
28	9B	2222	2347	102	3
29	3	1906.2	1907.5	1.4	2

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION
SEPTEMBER 1961

BOULDER 108 MC

Sept. 1961	U.T.		Sept. 1961	U.T.	
1	1232-0116		17	1247-0051	
2	1233-0114		18	1248-0049	I 2003-2148
3	1234-0113		19	1249-0048	I 1249-0048
4	1235-0111		20	1250-0046	
5	1236-0110		21	1251-0044	
6	1237-0108		22	1252-0043	
7	1238-0106		23	1253-0041	
8	1239-0106		24	1254-0039	
9	1240-1520		25	1255-0038	
	2000-0104		26	1256-0036	
10	1241-0103		27	1257-0034	
11	1242-0101		28	1258-0033	
12	1243-0059		29	1259-0031	I 2100-0031
13	1244-0058		30	1300-0030	
14	1415-0056				
15	1246-0054				
16	1247-0053	I 2100-2330			

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES

(Climax Neutron Monitor)

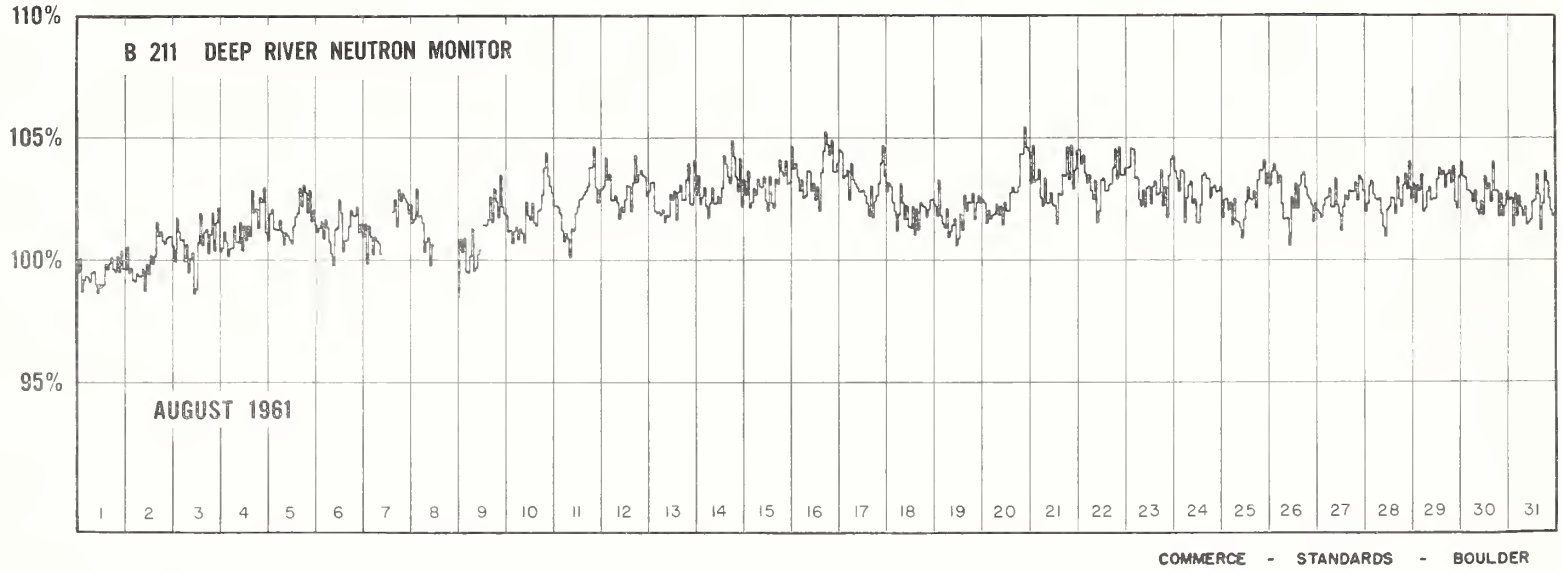
AUGUST 1961

Aug. 1961	Daily average counts/hr.	Aug. 1961	Daily average counts/hr.
1	2850.5	16	2983.0
2	2898.2	17	2979.1
3	2918.5	18	2962.8
4	2928.7	19	2958.4
5	2935.7	20	2970.7
6	2934.9	21	2995.1
7	2924.1	22	2999.6
8	2929.4	23	3004.8
9	2927.5	24	2993.3
10	2947.8	25	2989.7
11	2945.1	26	2974.6
12	2946.2	27	2974.4
13	2934.7	28	2971.9
14	2954.8	29	2990.2
15	2963.9	30	3000.6
		31	2979.6

COMMERCE - STANDARDS - BOULDER

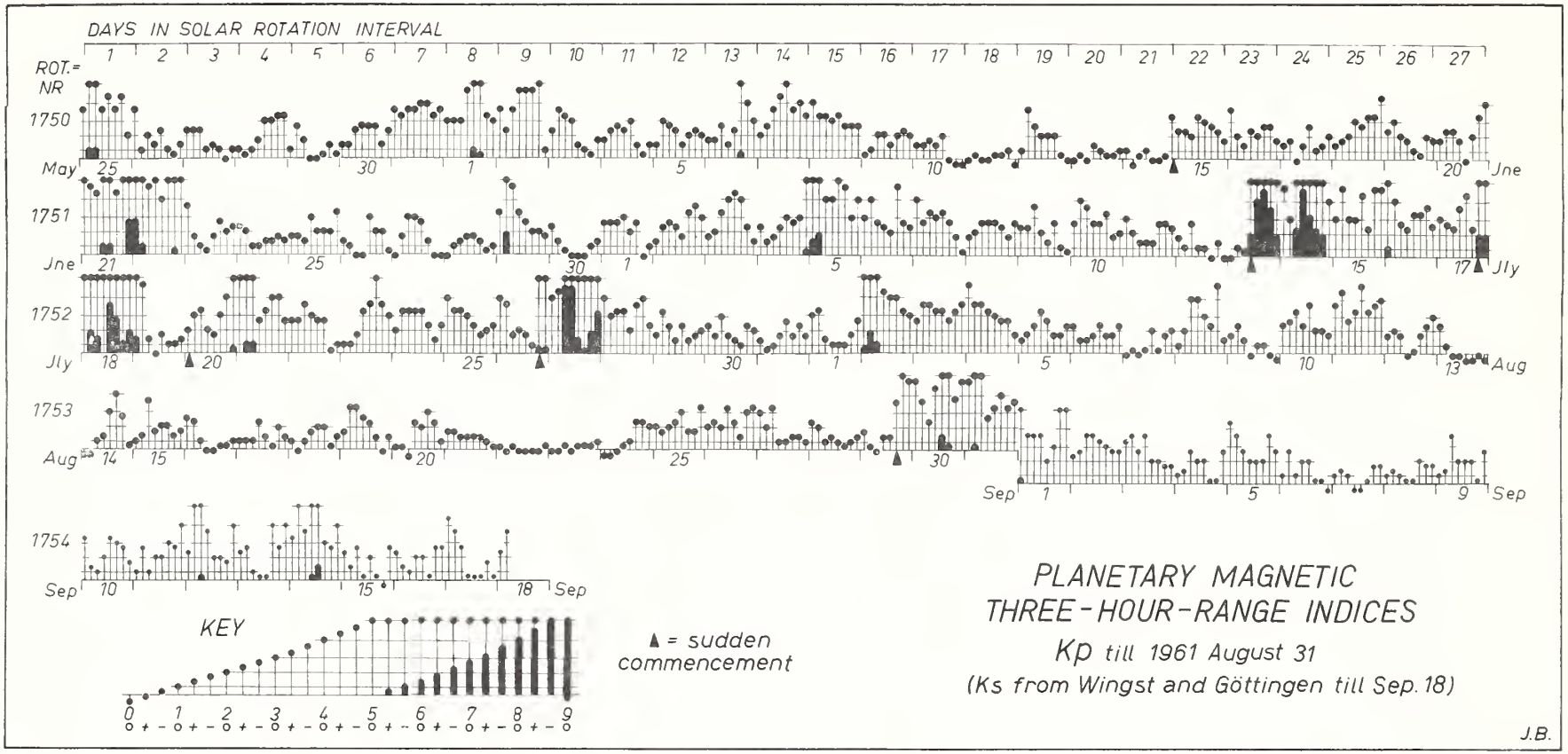
COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)



AUGUST 1961

Aug. 1961	C	Values Kp Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	0.5	3o 3+ 1+ 1o	1o 1o 2- 3-	15o	8	Five
2	1.4	5+ 6+ 6- 4+	4o 4o 3+ 3o	36o	42	Quiet
3	1.0	3- 4- 4- 3+	3+ 3- 3+ 4-	26+	18	
4	1.1	5- 4- 4- 3+	3o 3- 3- 2-	25+	18	7
5	0.7	1+ 2- 2+ 3+	3- 2- 2- 2+	17o	9	9
						13
6	0.5	2+ 1+ 1+ 2-	2+ 2- 2- 2+	15-	7	22
7	0.2	0+ 1- 0+ 1-	2o 1- 2- 2o	8+	4	23
8	0.8	1o 2o 4o 4o	3o 2+ 5- 1+	22+	17	
9	0.1	2- 2+ 1+ 0+	1o 1o 0+ 0o	8o	4	
10	0.7	2+ 3- 3+ 2+	4- 2o 2o 2-	20o	11	
11	1.2	4- 4+ 3- 3+	5- 3+ 4- 4o	30-	24	Five
12	0.4	2- 2o 2- 0+	1- 2- 2+ 3o	13+	7	Disturbed
13	0.2	2+ 1o 0+ 0+	0o 0o 0+ 0o	4+	2	
14	0.6	0o 0o 1o 1+	3o 4o 3- 1-	13-	8	2
15	0.6	1o 1+ 4- 2-	2o 2o 1+ 2-	15-	8	4
						11
16	0.3	3- 2+ 1o 0+	0+ 1- 1- 1o	9o	5	30
17	0.3	1o 1o 1o 2+	1+ 1- 2o 1+	11-	5	31
18	0.3	1o 0+ 1o 2-	2o 2o 1- 1+	10o	5	
19	0.4	2- 3+ 3+ 3-	2+ 1+ 0+ 1+	16+	9	
20	0.4	1- 1- 0o 2+	2o 3o 2+ 1o	12o	6	
21	0.2	2- 2- 1+ 1+	1+ 1+ 1o 1-	10+	5	Ten
22	0.0	1- 0+ 1- 0+	0+ 0+ 0+ 1-	4-	2	Quiet
23	0.2	0+ 0+ 1- 0+	1- 1- 1- 1o	5-	3	
24	0.3	0o 0o 0+ 1-	1o 2+ 2+ 2o	9-	4	7
25	0.7	2o 2- 2o 2+	3o 2- 2- 3+	18-	9	9
						13
26	0.8	2o 2+ 2o 3+	2+ 1+ 3o 3+	20-	11	16
27	0.6	3o 2o 3+ 1o	1o 1+ 1+ 1o	14o	8	17
28	0.2	2+ 2o 1o 1+	1o 1- 1o 1+	11-	5	18
29	1.0	2- 1- 0+ 1+	1+ 4- 5o 5-	19-	16	21
30	1.4	5- 4- 2+ 4+	6o 5+ 4- 5-	35-	37	22
31	1.3	5- 5+ 5o 3-	3+ 4o 3+ 4-	32o	30	23
						24
Mean:	0.59			Mean:	11	



COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

AUGUST 1961

NORTH ATLANTIC

DATE AUGUST 1961	NORTH ATLANTIC 6-HOURLY DUALITY FIGURES: 00 TD 06	06 TD 12	12 TD 18	18 TD 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF: 00	06	12	18	WHOLE DAY INDEX	ADVANCE FORECASTS (J-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY: 1-7 DAYS FINAL J_S	1-7 DAYS SDW	1-3 DAYS J	1-7 DAYS	GEOMAGNETIC K_{FR}: HALF DAY (1)	(2)
01	7-	6o	7-	7-	6	4	6	7	6+	4	4			3	2
02	5o	4-	5+	5+	7	3	4	5	5-	5	5			(5)	3
03	5o	4o	5o	6-	4	4	5	5	5-	5	5			(4)	3
04	5o	4-	6-	6+	6	4	6	6	5o	6	6			(4)	3
05	6-	5-	6+	6+	6	4	6	6	6-	6	6			2	2
06	6+	6-	6+	7-	6	5	6	6	6+	6	6			2	2
07	7-	6-	6+	7-	7	6	6	7	6+	6	6			1	2
08	7-	5o	6+	6+	7	6	6	6	6o	6	6			3	3
09	6+	5+	6+	7-	6	5	6	7	6+	6	6			2	0
10	7-	5-	6+	6+	7	6	6	6	6o	6	6			(4)	2
11	5-	4-	6-	6-	6	4	6	5	5-	6	6			(4)	3
12	6-	5-	6+	6+	4	4	6	7	6-	6	6			2	2
13	7o	6-	7-	7-	6	5	6	6	7-	6	6			2	1
14	7o	5+	6+	7-	5	4	6	5	6+	4	4			0	3
15	7o	5o	7-	7-	6	6	6	7	6+	4	4			3	2
16	7-	6o	6+	6+	7	5	6	7	6+	5	5			2	1
17	7-	6+	7-	7-	7	6	7	7	7-	6	6			2	2
18	7-	6o	7-	7o	7	6	6	6	7-	7	7			2	2
19	7-	6+	7-	7-	7	6	6	7	7-	7	7			3	2
20	7-	6o	7-	7-	7	6	6	7	6+	7	7			1	2
21	6o	6-	6+	7-	7	6	6	7	6+	7	7			2	2
22	6+	6o	7-	7-	6	5	6	6	6+	6	6			1	0
23	7o	6-	7o	7-	7	6	7	7	7-	6	6			0	1
24	7-	6o	7o	7o	7	6	7	7	7-	7	7			0	2
25	7-	6o	7-	7o	7	6	7	7	7-	7	7			2	3
26	7-	6o	6+	7-	7	6	7	7	6+	7	7			3	2
27	6o	5+	6+	7-	6	6	6	7	6o	7	7			3	1
28	6+	6o	7-	7-	7	5	6	7	6+	6	6			2	1
29	7-	6-	6+	7-	6	6	7	7	6+	5	5			1	3
30	5+	4o	5o	5o	6	4	5	5	5-	5	5			(4)	(4)
31	3o	2+	6-	6-	4	3	5	6	4-	5	5			(4)	3
Score: Quiet Periods P					17	12	19	22		16	16				
S					10	12	12	8		11	11				
U					2	0	0	1		0	0				
F					1	1	0	0		3	3				
Disturbed Periods P					0	4	0	0		0	0				
S					1	2	0	0		1	1				
U					0	0	0	0		0	0				
F					0	0	0	0		0	0				

NORTH PACIFIC

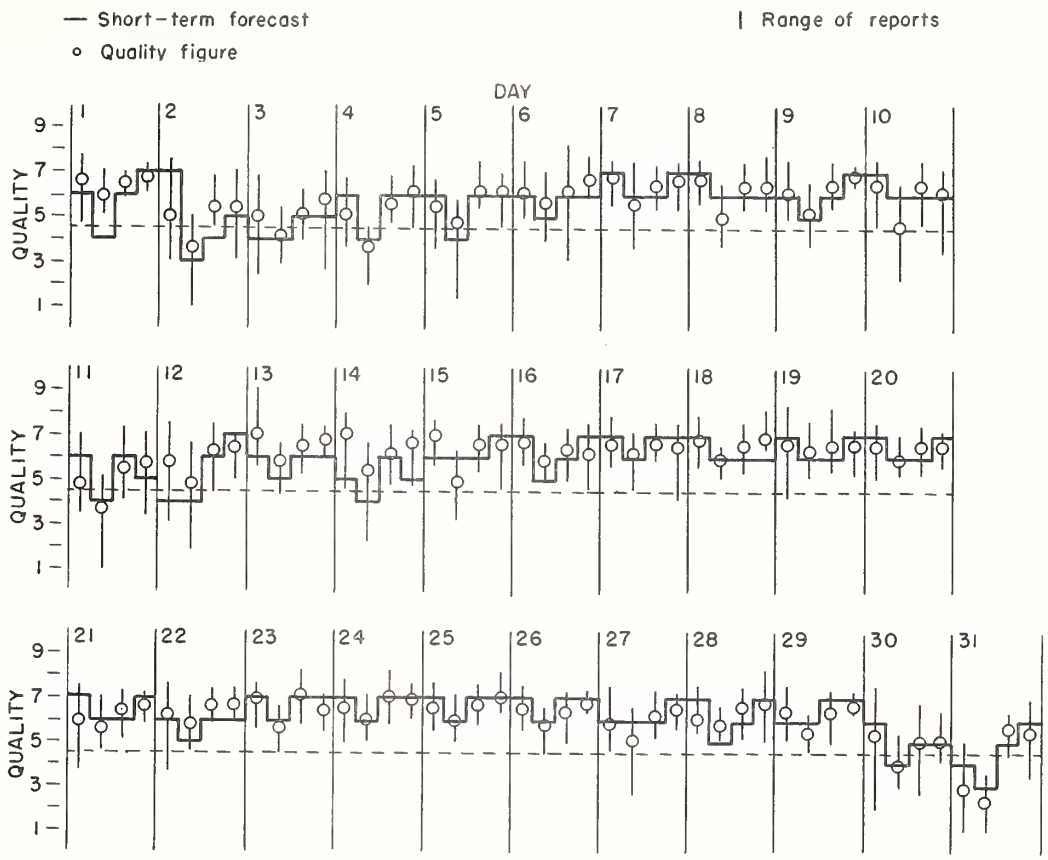
NORTH PACIFIC 12-HOURLY DUALITY FIGURES: 0700 TD 1900	1900 TO 0700	SHORT-TERM FORECASTS ISSUED AT: 0600	1800	WHOLE DAY INDEX	ADVANCE FORECASTS (J_P-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY: 1-7 DAYS FINAL J_{PS}	1-7 DAYS SDW	1-3 DAYS J_P	1-7 DAYS	GEOMAGNETIC K_{SI}: HALF DAY (1)	(2)
6	5	6	6	5	4	4			2	2
3	4	3	4	(3)	4	4			(6)	(4)
4	5	4	5	(4)	5	5			(4)	3
5	6	5	6	5	6	6			(4)	2
5	6	6	6	5	6	6			3	2
6	5	6	6	6	6	6			2	2
6	6	6	6	6	6	6			0	2
5	6	6	6	5	6	6			3	3
6	6	6	7	6	6	6			2	1
6	5	6	6	6	7	7			3	3
5	5	5	6	5	7	7			(4)	(4)
5	6	5	7	6	6	6			2	2
5	6	6	7	6	6	6			1	0
7	6	5	6	6	4	4			0	2
6	6	6	7	6	4	4			2	1
7	6	6	6	6	5	5			2	0
7	6	7	7	6	7	7			2	1
6	7	7	7	6	7	7			2	1
6	7	7	7	6	7	7			3	2
6	6	7	7	6	7	7			1	2
7	6	7	7	6	6	6			2	1
6	6	7	7	6	6	6			0	0
6	7	7	7	6	6	6			0	0
6	7	7	7	7	6	6			0	1
6	6	7	7	6	6	6			2	2
6	6	7	7	6	6	6			2	1
6	6	7	7	6	6	6			1	1
6	5	7	7	6	6	6			0	3
3	4	5	4	(4)	6	6			(4)	(5)
3	4	3	5	(3)	(4)	4			(5)	3
		11	12		13					
		15	15		10					
		1	1		2					
		0	0		2					
		3	2		0					
		0	1		3					
		1	0		0					
		0	0		1					

( ) Represent disturbed values
All times are Universal Time (U.T.)

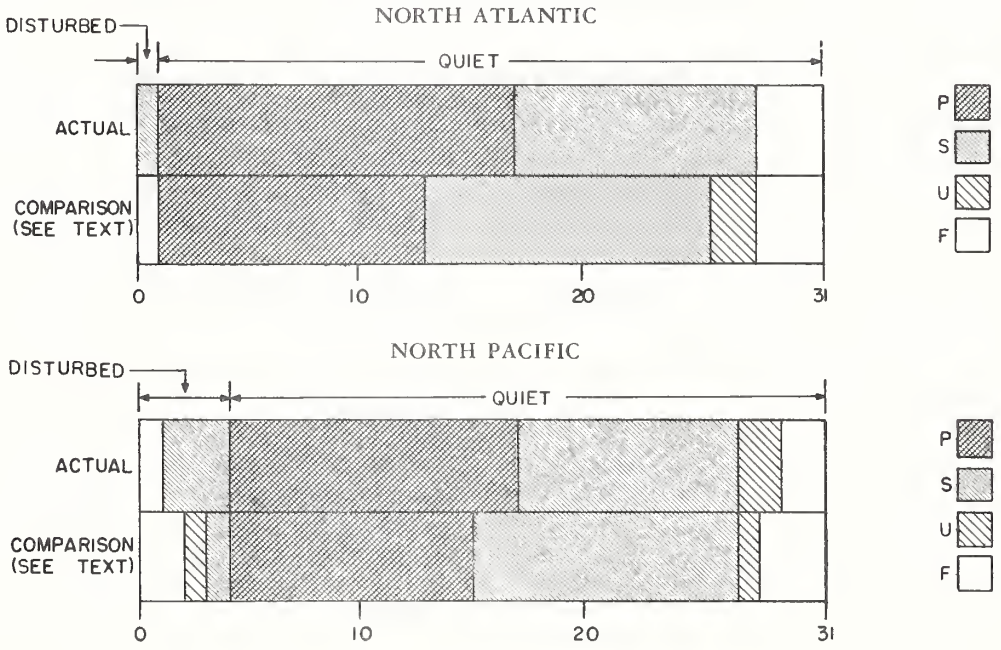
CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

AUGUST 1961



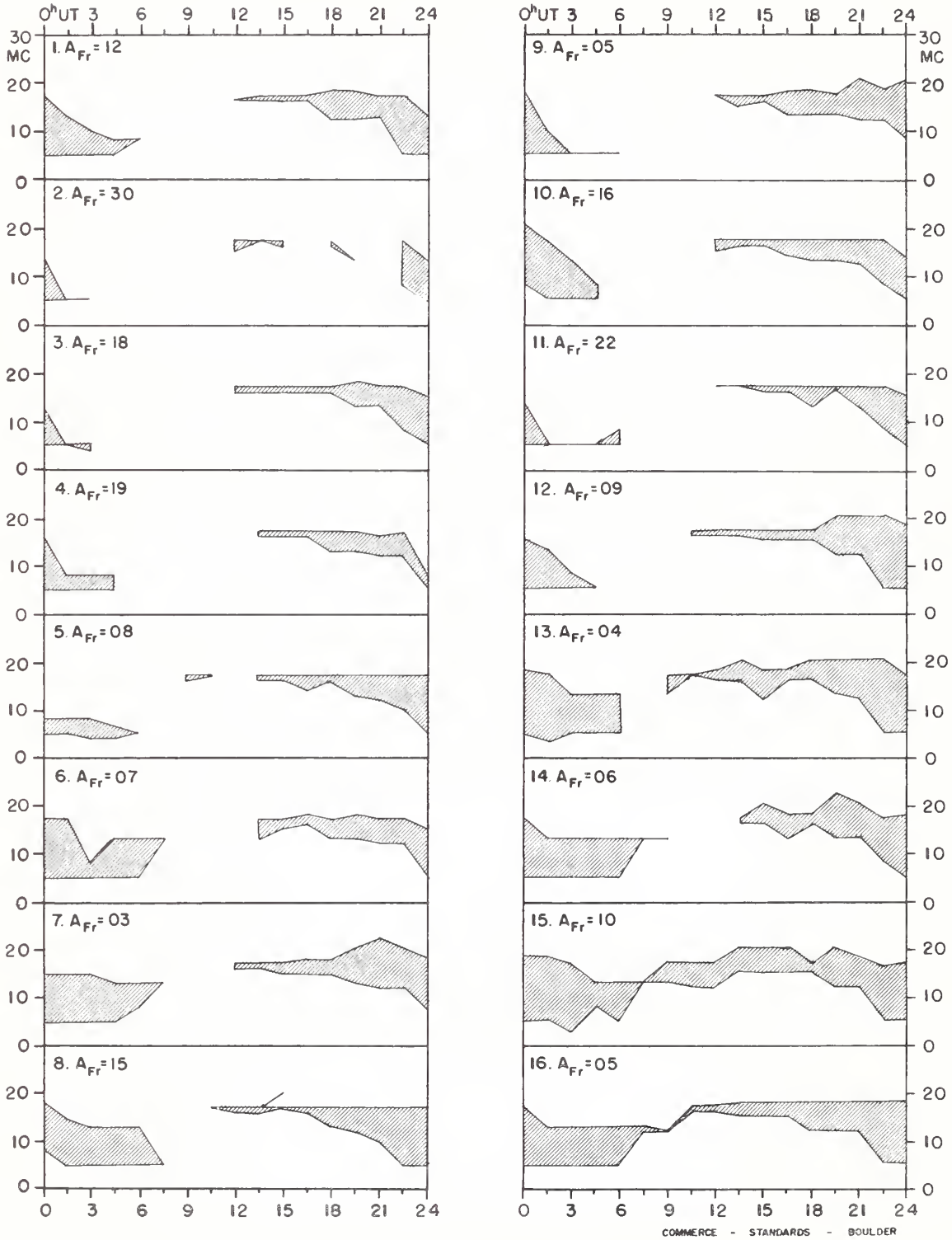
OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE



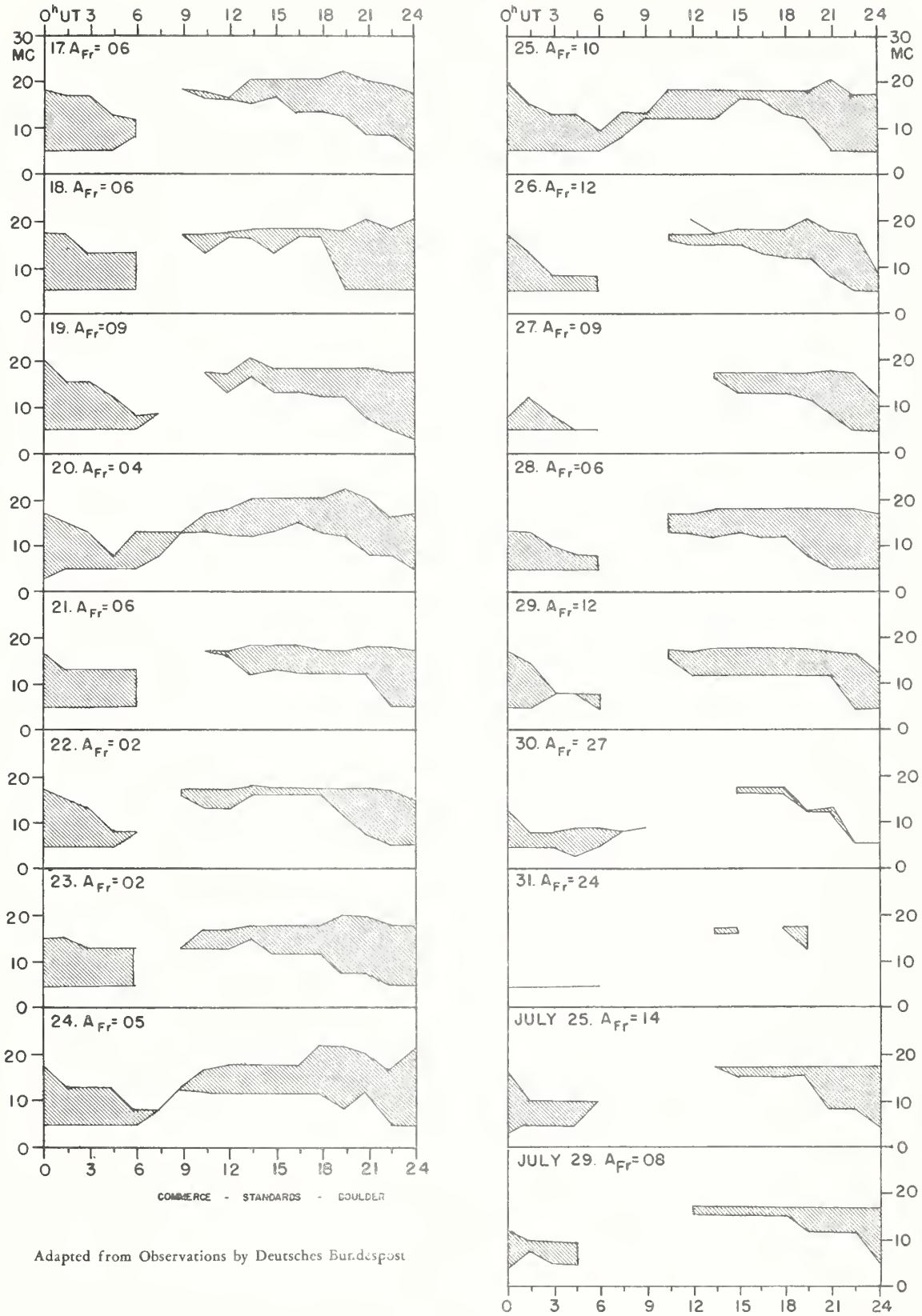
COMMERCE - STANDARDS - BOULDER

USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1961



AUGUST 1961



Adapted from Observations by Deutsches Bundespost

ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

SEPTEMBER 1961

Issued September 1961 Day/Time UT	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
02/1445	Sac Peak, Solar Flare, Two 02/1400Z			
04/1654	Sac Peak, Solar Flare, Two 04/1432Z			
05/1935	Climax, Solar Flare, One Plus 05/1425Z			
08/1642	McMath, Solar Flare, One Plus 08/1502Z			
08/1642	McMath, Solar Flare, One Plus 08/1552Z			
24/1240	Ft. Belvoir, Magnetic Storm 24/08XXZ			
24/1600		140	Magnetic Storm 24/08XXZ	Start
25/1600		141		Continue
26/1600		142		Finish
27/1252	Ft. Belvoir, Magnetic Storm 26/22XXZ			
27/1600		143	Magnetic Storm 26/22XXZ	
29/0015	Lockheed, Solar Flare, Three Plus 28/2200Z			
29/1600		144		Start (Predicted)
30/1600		145		Continue (Predicted)
30/2121	Ft. Belvoir, Magnetic Storm Aurora Probable 30/2111Z			

COMMERCE - STANDARDS - BOULDER